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PLANS FOR VOCATIONAL EDUCATION IN TEXAS

1920-1921

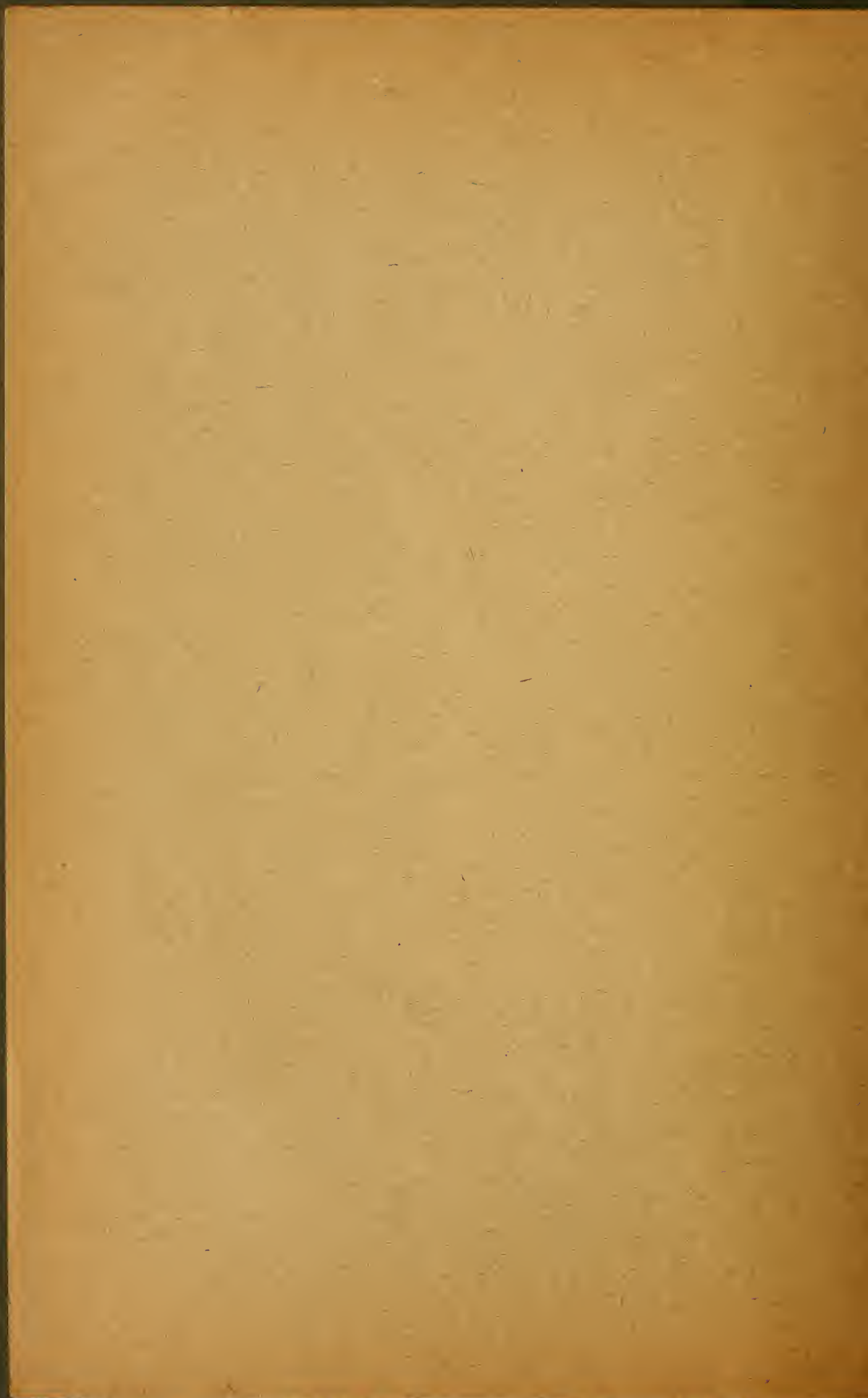
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BULLETIN NO. 125

STATE BOARD FOR VOCATIONAL EDUCATION
AUSTIN, TEXAS

Monograph



Texas, Dept. of education,

BULLETIN 125

NOVEMBER, 1920

OUTLINE OF PLANS

FOR

VOCATIONAL EDUCATION IN TEXAS

UNDER THE SMITH-HUGHES ACT

ADOPTED BY

THE STATE BOARD FOR VOCATIONAL EDUCATION

AND APPROVED BY

THE FEDERAL BOARD FOR VOCATIONAL EDUCATION

1920-1921

AUSTIN, TEXAS

STATE DEPARTMENT OF EDUCATION

A578-1020-1500-L175

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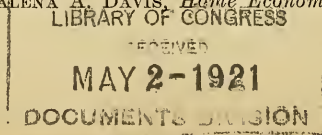
Southwest Texas State Normal College, San Marcos.

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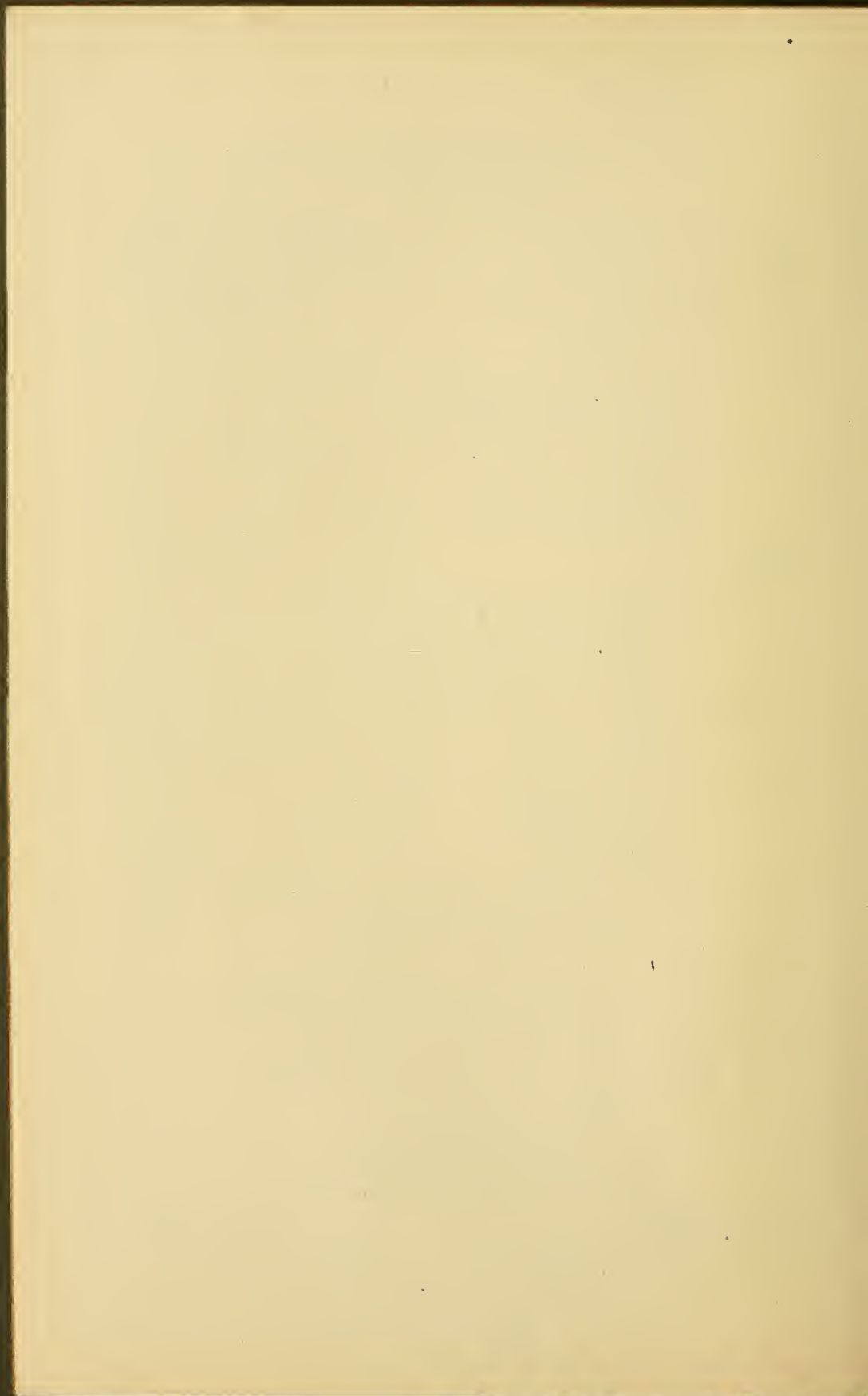
EVALENA A. DAVIS, *Home Economics*.



Apr 28 1936

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FOREWORD

The Smith-Hughes Act was approved by Congress February 23, 1917.

PURPOSE.

"An Act to provide for the promotion of vocational education. To provide for cooperation with the states in the promotion of such education in agriculture, trades and industries, and home economics subjects; to provide for cooperation with the states in preparation of teachers of vocational subjects, and to appropriate money and regulate its expenditure."

The provisions of the Federal Act were accepted by the State of Texas in 1917.

The following constitutes a brief summary of vocational work in Texas from 1918-1920:

1917-18.

A director of agricultural education was appointed December 1, 1917.

A director of trade and industrial education was appointed January 15, 1918, and a director of home economics education January 13, 1918.

During this year the directors of vocational work visited many schools in the state, acquainting them with the program for vocational work and establishing vocational departments as follows: agriculture, 16 schools; trades and industries, day vocational classes in two schools, and evening classes in eight schools; home economics, two day schools for whites, one day school for negroes, and four classes in evening schools.

Plans were put under way for training vocational teachers in the following institutions:

Agriculture.—Agricultural and Mechanical College, Prairie View Normal and Industrial College.

Trades and Industries.—Agricultural and Mechanical College, University of Texas.

Home Economics.—College of Industrial Arts.

FEDERAL FUNDS AVAILABLE IN 1917-18.

For salaries of teachers, supervisors, or directors of agricultural subjects	\$29,974.72
For salaries of teachers of trade, home economics, and industrial subjects	11,974.72
For teacher-training and state supervision.....	21,259.77

1918-19.

A steady gain in all vocational work followed in 1918-19.

An assistant agricultural supervisor was added to the staff.

Thirty-one schools maintained and completed courses in vocational agriculture. Twenty evening schools, four general continuation part-time schools, and five all-day trade schools were approved for federal aid in trades and industries. Eight day schools and eight evening classes engaged in vocational home economics work.

Teacher-training was carried on in the following institutions:

Agriculture.—Agricultural and Mechanical College, Prairie View Normal School (for negroes).

Trades and Industries.—Agricultural and Mechanical College, University of Texas.

Home Economics.—College of Industrial Arts, University of Texas. Prairie View Normal was designated to train negro teachers. No work was done.

The amount of federal money available for the year was as follows:

For salaries of teachers, supervisors or directors of agricultural subjects	\$44,962.08
For salaries of teachers of trade, home economics, and industrial subjects	16,636.07
For teacher-training and state supervision.....	29,763.68

The state legislature made a special appropriation of \$25,000 for rural schools and schools of small towns.

1919-20.

A director and two assistants were employed in agriculture, a director and assistant in trades and industries, and a director and assistant in home economics.

Seventy-six schools completed work in vocational agriculture. Forty-eight evening classes in six different centers, eleven general continuation part-time classes in four centers, and fourteen all-day trade schools in seven centers satisfactorily completed their programs in trade and industrial work. Twenty-nine day schools, and ten evening classes in three centers completed work in vocational home economics.

TEACHER-TRAINING.

All the institutions formerly approved continued their work. In addition, Prairie View Normal School for negroes initiated a teacher-training course for teachers of vocational agriculture; Southwest Texas Normal College, and Prairie View Normal School for negroes initiated work in training teachers of vocational home economics. Sam Houston

Normal Institute, and West Texas Normal College have been designated to train teachers of vocational agriculture, and North Texas Normal College has been designated to train teachers of trades and industries. Their programs have not been approved for federal aid as yet.

The legislature re-enacted the Act of Acceptance for 1919-20 and 1920-21.

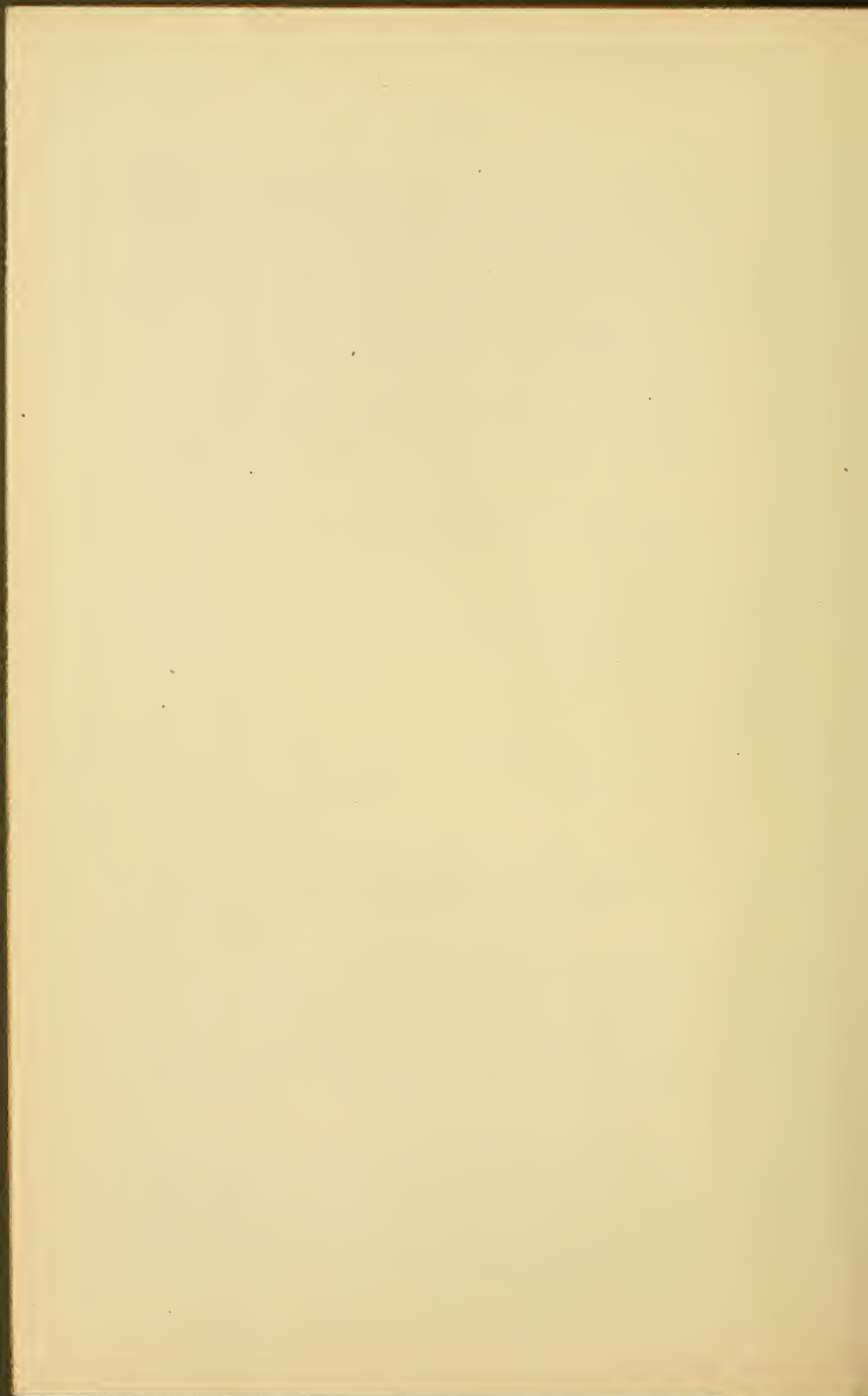
The available federal funds for 1919-20 were as follows:

For salaries of teachers, supervisors, or directors of agricultural subjects	\$59,949.44
For salaries of teachers of trade, home economics, and industrial subjects	22,181.43
For teacher-training and state supervision.....	38,267.59

1920-21.

The following apportionment of federal funds has been made for Texas, 1920-21:

Federal fund for agriculture.....	\$74,936.80
Federal fund for trade, home economics, and industry.....	27,726.77
Federal fund for teacher-training.....	42,519.54



OUTLINE OF PLANS FOR VOCATIONAL EDUCATION

STATE PLANS FOR VOCATIONAL EDUCATION IN TEXAS UNDER THE PROVISION OF THE SMITH-HUGHES LAW.

I. ADMINISTRATION AND SUPERVISION.

1. General direction of the vocational work will be under the control of the State Board for Vocational Education, which includes:
William P. Hobby, Governor, Chairman.
M. L. Wiginton, Comptroller.
C. D. Mims, Secretary of State.
Annie Webb Blanton, State Superintendent of Public Instruction, who has been designated as executive officer of the State Board for Vocational Education.

2. Agricultural education.

- A. Supervision.

The State Board for Vocational Education will employ supervisors who will have direct supervision of vocational agricultural education in the state. It also proposes to use 11 per cent of the teacher-training fund for supervision and training of teachers in service, in accordance with the following plan.

- B. Plan for supervision and training of teachers in service.

- a. General supervision plan.

- (1) Inspecting schools and reporting upon the work done and methods employed.
 - (2) Assisting in the establishment of new schools and classes.
 - (3) Supplying literature on vocational agriculture to teachers.
 - (4) Qualifications of supervisors. (See III. Agricultural Education 7.)
 - (5) Professional improvement. At the discretion of the Executive Officer of the State Board for Vocational Education, supervisors may be allowed to spend a month on pay in "professional improvement" during the summer.

- b. Plan for improvement of teachers in service.

- (1) Through systematic visitation of teachers for individual help.
 - (2) By requiring of teachers monthly reports to the State Board for Vocational Education showing work done and methods of instruction used. These reports will be criticized and returned to the teachers.

- (3) By holding conferences at which problems of the teacher will be discussed.
- (4) Through courses especially designed for teachers who are not agricultural college graduates.
- (5) By cooperating with the teacher-training institutions in order that all teacher-training may be coordinated.

3. Trade and industrial education :

A. Supervision.

The State Board for Vocational Education will employ supervisors who will have direct supervision of all industrial education in the state.

B. Qualifications of supervisors.

- a. Supervisors shall be at least twenty-five years of age.
- b. They shall have a high school education or its equivalent and at least three years of college training or its equivalent.
- c. They shall have at least three years' experience in teaching industrial education or first hand contact with trade and manufacturing conditions or the equivalent.
- d. They shall have made a study of the problems of industrial education and be familiar with the latest developments in vocational education.
- e. Professional improvement. At the discretion of the Executive Officer of the State Board for Vocational Education, supervisors may be allowed to spend a month on pay in "professional improvement" during the summer.

C. Plan of supervision and training of teachers in service.

a. General supervision plan.

- (1) Preparation of bulletins and other special literature.
- (2) Assisting local communities in surveys, and the organization of classes.

b. Plan for improvement of teachers in service.

- (1) By systematic visitation to teachers or local supervisors for individual help.
- (2) Definite reports from the teachers or local supervisors to the state supervisor.
- (3) State and sectional meetings of teachers at which the supervisors may give instruction or provide other instruction.
- (4) A period of professional improvement for teachers under the direction of the state supervisor.
- (5) Cooperation between teacher-training institutions and the state supervisor, so that all teacher-training may be coordinated.

4. Home economics education:

A. Supervision.

The State Board for Vocational Education will employ supervisors who will have direct supervision of all vocational home economics education in the state.

B. Plan of supervision.

(1) Improvement of teachers in service.

- (a) Through systematic visitation to teachers for individual help.
- (b) Reports shall be made by the teachers to the state supervisor at the end of each term or semester, and at any other times designated by the state supervisor.
- (c) By state or sectional meetings of the teachers at which the supervisors may give instructions or provide other instruction. (State meeting.)
- (d) A period of professional improvement under the direction of the state supervisor of vocational home economics education.
- (e) Cooperation between teacher-training institutions and the state supervisor so that all teacher-training may be coordinated.

(2) Promotion of new work.

- (a) By visits, conferences, and publications give to other schools than those receiving aid for vocational home economics, information regarding standards of work in vocational home economics classes.
- (b) By giving assistance to schools, in which vocational home economics has not been introduced, in teaching and maintaining vocational home economics.
- (c) By studying the needs of the state and determining the towns in which vocational home economics can be of greatest service, in order to put before the people the possibilities of vocational instruction, and to assist these communities to establish satisfactory vocational schools or courses.

(3) The collection of information relating to home-making education in schools and communities; aiding in the preparation

of bulletins and reports and helps for teachers, shall be a part of the duties of the supervisor.

- (4) The supervisor shall inspect the equipment and visit classroom and laboratory used for home economics classes and make reports and suggestions to the home economics teacher and the local board in schools aided by federal funds, or applying for such aid.

C. Qualifications of supervisors.

a. Practical experience.

Practical home-making experience of two years in adult life.

- b. She shall be a graduate of a four-year course in home economics in a college of high standing and have done some graduate work.

- c. Her college course shall have included not less than 10 per cent professional educational courses.

- d. She shall have had two years of successful experience in teaching home economics in a high school or high schools, also experience in supervision and training of teachers.

- e. At the discretion of the Executive Officer of the State Board for Vocational Education, supervisors may be allowed to spend a month on pay in "professional improvement" during the summer.

5. Teacher-training.

All teacher-training for vocational teachers under the Smith-Hughes Act shall be under the supervision of the State Board for Vocational Education. Such training shall be given to persons who have had adequate vocational experience, and in institutions under public supervision and control.

Teacher-training in agriculture will be under the direct supervision of the State Supervisor of Agricultural Education.

Teacher-training in industrial education will be under the direct supervision of the State Supervisor of Industrial Education.

Teacher-training in home economics education will be under the direct supervision of the State Supervisor of Home Economics Education.

II. GENERAL CONDITIONS.

1. Supervision and control.

All vocational education under the Smith-Hughes Law shall be under public supervision and control.

2. Controlling purpose.

The purpose of the Smith-Hughes Law shall be to train per-

sous for useful and productive employment in agriculture, home economics, and trades and industries.

3. Grade of work.

All vocational education given under the Smith-Hughes Act shall be of less than college grade.

4. Age of students.

The instruction in vocational education shall be designed to meet the needs of persons over fourteen years of age who have entered upon, or who are preparing to enter upon, useful employment in agriculture, home economics, or trades and industries.

5. Duplication of federal funds.

All federal funds for vocational education shall be duplicated by state or local funds, or by both.

6. Expenditure of funds.

All federal funds for vocational education shall be used as reimbursements to schools:

- A. For salaries of teachers, supervisors, or directors of vocational agriculture.
- B. For salaries of teachers of trade, home economics and industrial subjects.
- C. For maintenance of teacher-training for vocational teachers. Maintenance does not include items (buildings, etc.) prohibited under Section 17 of the Act.

III. AGRICULTURAL EDUCATION.

1. Kinds of schools.

It is proposed that federal moneys shall be used to reimburse the following types of schools for salaries of teachers, supervisors or directors of vocational agriculture:

- A. Special schools.
- B. Departments of vocational agriculture.

2. Plant and equipment.

- A. For special schools of vocational agriculture there will be required a farm of suitable size and suitably equipped to give supervised farm practice to all pupils enrolled in the agricultural courses; also laboratories properly equipped for giving instruction in the related sciences.
- B. For departments of vocational agriculture in high schools the following equipment shall be provided:
 - a. A room fitted up primarily for instruction in agriculture.
 - b. A suitable room for properly storing apparatus and materials collected in the community.
 - c. A good collection of reference books, bulletins, farm papers, and periodicals.

- d. Sufficient equipment to demonstrate the various phases of scientific farming. The equipment for a group of from 15 to 20 pupils will cost from \$200 to \$300, in addition to the equipment for chemistry, physics, etc. In the event farm mechanics is to be a part of the course, an additional \$200 worth, together with a suitable room, shall be provided.
 - e. A minimum of one acre of land shall be provided in order to meet any emergency which may arise.
3. Minimum of maintenance.
- A. Each school receiving federal aid shall provide a qualified teacher for twelve months.
A minimum salary of \$1500 shall be paid all white teachers, supervisors and directors of vocational agriculture. One month, on pay, will be allowed for *professional improvement*, provided, the time is spent in college pursuing courses of instruction especially planned for teachers, supervisors, or directors of vocational agriculture.
 - B. The local board shall set aside a minimum of \$1 per pupil. All local boards shall, prior to the approval of the application, furnish evidence that such conveyance as may be necessary for the personal supervision of all project work, will be provided for the teacher of vocational agriculture.
4. Courses of study.
- A. Boarding pupils in special schools for vocational agriculture shall devote one hundred twenty minutes daily to theoretical and practical work, including recitation, laboratory, supervised study, project study, reports, and demonstration. In addition to this, they shall be required to devote an average of forty minutes daily for nine months to directed or supervised practical work on the school farm. Day pupils in special schools shall devote one hundred and forty minutes to theoretical and practical work including recitation, laboratory, supervised study, reports, and demonstration. In addition to this, six months' directed or supervised practical work shall be required.
 - B. Agricultural departments in high schools shall maintain a course of study of not less than one year or more than four years in length. Students electing vocational agriculture shall devote 50 per cent of the recitation time during the school term to such work. The contents of this course will vary according to the type of agriculture practiced in the community. It shall, however, consist of both practical and theoretical agriculture. The theoretical and practical work shall be given one hundred twenty minutes each day and shall include

laboratory, recitation, supervised study, project study, reports, and demonstrations. In addition to this, six months' directed or practical work will be required.

- C. Part time and evening classes shall meet at least two hours each week for a period of three months. These courses will be organized to give specific information needed in the community and so will vary with the locality. The requirements concerning supervised practice work are the same as for agricultural departments in high schools.
- D. Typical courses of study. (Based on weekly program.)

***PROPOSED COURSE OF STUDY FOR SPECIAL SCHOOLS OF VOCATIONAL AGRICULTURE.**

<i>First Year.</i>		<i>Second Year.</i>	
Subject.	Minutes.	Subject.	Minutes.
English	200	English	200
General science.....	200	Vocational mathematics.....	200
Modern history.....	200	American history.....	200
Plant production.....	800	Animal production.....	800
<i>Third Year.</i>		<i>Fourth Year.</i>	
English	200	English	200
Applied chemistry.....	200	Applied physics	200
Physics and farm law.....	200	Industrial history and rural sociology	200
Fruit production.....	800	Farm management and farm mechanics	800

***PROPOSED COURSE OF STUDY FOR DEPARTMENTS OF VOCATIONAL AGRICULTURE.**

<i>First Year.</i>		<i>Second Year.</i>	
Subject.	Minutes.	Subject.	Minutes.
English	200	English	200
Algebra	200	Geometry	200
Ancient history.....	200	Mediaeval and modern history.....	200
Plant production.....	600	Animal production.....	600
<i>Third Year.</i>		<i>Fourth Year.</i>	
English	200	English	200
Vocational mathematics.....	200	American history.....	200
Chemistry or physics.....	200	Rural sociology and economics.....	200
Fruit production	600	Farm management and farm machinery	600

*NOTE.—These courses have been prepared for white schools, but will be adapted to meet the needs of individual colored schools.

5. Methods of instruction.

The methods of instruction will vary with the type of schools, but shall be based upon:

- A. Supervised projects in vocational agriculture.
- B. Recitation and supervised study.
- C. Project study and reports.
- D. Demonstration and laboratory work.
- E. The use of lantern slides, charts, and materials from the farm.

6. Qualifications of teachers of vocational agriculture.

- A. A teacher shall have completed a standard four-year course in agriculture of college grade.

If it is found impossible to secure a sufficient number of teachers meeting this requirement during the present fiscal year, or the next two years, the State Board reserves the right to approve teachers of less technical instruction; provided, that in no case teachers shall

be approved who have not completed at least two years of instruction of college grade, and in addition, 24 semester hours' work in technical agriculture in an institution of college grade for 1920-21; 33 semester hours of technical agriculture will be required for 1921-22.

- B. He shall have had:
 - (1) At least two years' practical experience on a farm after his twelfth birthday.
 - (2) Six semester hours' credit in education, or the equivalent.
 - (3) One-half year's teaching experience in a secondary school, either as a regular teacher or in practice teaching.
 - C. After September 1, 1922, all eligibles for positions as teachers of vocational agriculture shall have completed the four-year course in vocational agricultural education, as prescribed by the State Board of Vocational Education, or the equivalent, provided that teachers of such qualifications can be secured.
7. Qualifications of supervisors or directors.
- A. A supervisor or director shall be:
 - a. A graduate of a standard agricultural college, or the equivalent.
 - b. At least twenty-five years of age.
 - B. He shall have had:
 - a. At least three years' practical experience on a farm after his twelfth birthday.
 - b. Six semester hours' credit in education, or the equivalent.
 - c. Two years' teaching experience in a secondary school.
 - d. Four years' experience as a teacher or supervisor of agriculture.
 - C. Supervisors shall have made a detailed study of agricultural education.
8. Plans for at least six months' supervised practical work.
- A. Each pupil shall be required to spend at least six months' time in supervised practical work on the home or school farm or a farm adjacent to the school.
 - B. The directed or supervised practical work in vocational agriculture may be secured in either of two ways, depending upon the type of school:
 - a. In special schools, by working on the school farm under the immediate supervision of the teacher.
 - b. In high school departments of vocational agriculture, by working on the home farm under the supervision of the teacher with such cooperation from the parent as is necessary to secure effective work. The directed or supervised practical work

for the boy who lives on a farm may consist of two parts:

- (1) A definite home project which is undertaken by the boy with full responsibility on his part for both the financing and working of the project. This enterprise involves the keeping of records, the taking of inventories, and the rendering of final statements to the teacher and state supervisor.
 - (2) In addition to the definite project, certain home exercises may be carried on, such as testing of milk from a herd of cows, the pruning and spraying of the orchard, or the testing of seed corn.
- C. The teacher of vocational agriculture shall visit each project at least twice a month for the purpose of giving such assistance as may be necessary.
 - D. Each pupil shall report monthly to the teacher upon the progress of the project.
 - E. A detailed report shall be made to the teacher upon the completion of the project, and not until that time shall any credit be given.
 - F. Financial reports on project work shall be submitted to the State Board for Vocational Education before reimbursement for the last quarter is made to the respective schools.

IV. TRADE, HOME ECONOMICS, AND INDUSTRIAL EDUCATION.

1. The following tentative budget is offered as the plan for the expenditure of the federal funds available for trade, home economics, and industrial education:
 - A. Evening schools or classes—eleven per cent (11%).
 - B. Part-time schools or classes—thirty-three and one-third per cent ($33\frac{1}{3}\%$).
 - C. Unit trade day-schools or classes—thirty-five and two-thirds per cent ($35\frac{2}{3}\%$).
 - D. General industrial schools or classes.....
 - E. Home economics—twenty per cent (20%).
2. Trade and industrial education.
 - A. The State Board for Vocational Education proposes to aid from federal funds during the fiscal year ending June 30th, 1921, the following types of trade and industrial schools. The right is reserved to propose other types later if found advisable:
 - a. Evening industrial schools.
 - (1) Evening schools to give instruction in related drawing, science, and mathematics to persons engaged in the building and metal trades, to textile mill workers, and

draftsmen in offices and industrial plants.

- (2) Evening schools or classes in shop work for persons engaged in auto repair work, plumbing, machine shop, carpentry, printing, garment making, millinery, dressmaking, cooking and hotel work.
- (3) Evening schools or classes for men in ship-building.
- (4) Evening classes in blue print reading for persons engaged in industry who need such instruction.

b. Part-time schools or classes.

It is expected that part-time classes or schools will be organized in several of the larger cities of Texas during the year. It is also expected that a few towns where cotton mills are located may establish classes. This type of training will be classified as:

- (1) Trade-extension part-time schools or classes.
- (2) Trade-preparatory part-time schools or classes.
- (3) General continuation part-time schools or classes.
 - (a) General continuation classes in which more than fifty per cent shall be general education subjects.
 - (b) General continuation classes in which fifty per cent or more may be commercial subjects.
 - (c) General continuation classes in which fifty per cent or more of the course may be retail selling subjects.

c. Unit-trade day schools or classes.

Where it is found there will be opportunity for employment for those taking unit-trade courses in the day school.

- d. Conditions in Texas are such, at the present time, that no general industrial schools or classes will be organized. Where schools or classes in cities or towns of less than 25,000 population are organized, they will be of the unit-trade type.

B. Evening industrial schools or classes.

- a. The controlling purpose shall be to fit for advancement in the occupation or employment in which the persons are engaged.
- b. Only pupils 16 years of age or over shall be admitted to the class.
- c. The plant and equipment must be adequate to guarantee practical and efficient instruction.
- d. Ample funds for maintenance must be provided by

the local community to guarantee the successful performance of the work.

- e. The courses of study shall be organized as far as possible on the unit plan, each trade being broken up into small units of instruction to enable the student to take all or part of the work as his needs require. For examples offered as types of courses showing how the instruction should be given in units, see Industrial Education, Exhibit I.

- f. Character of school work.

The work given in these evening classes will be so organized as to meet the needs of the pupils, and will be supplementary to the day employment to increase trade efficiency. It may be practical, or related subject work, or both.

- g. Methods of instruction.

The instruction shall conform to commercial shop practices and be given in the form of lectures and practice work to meet the needs of the individual pupils.

- h. Qualifications of teachers.

- (1) Shop teachers in evening schools shall be men and women who have had at least two years' practical experience in the trade for which they give instruction. They will be selected from men and women in the trade, if possible, and should be experts in the work taught. They shall have completed the elementary school in academic work or the equivalent.

- (2) The related subjects teachers shall be graduates of high schools and have at least two years' experience in the trade for which the related work is offered; or they shall be graduates of at least a two-year course in technical school, the course to include practical work along trade lines.

- i. Salaries of teachers in evening schools for whites.

- (1) Teachers in evening industrial schools or classes shall be paid at the rate of not less than one dollar and fifty cents per hour for the time devoted to the class work.

C. Part-time schools or classes.

- a. Trade-extension part-time schools or classes.

- (1) The controlling purpose shall be to prepare for advancement in useful occupations in trade and industrial lines.

- (2) Instructions shall be for persons at least 14 years of age who have entered upon the work of a trade or industrial pursuit.
- (3) The plant and equipment must be such as to guarantee efficient and practical instruction.
- (4) The local community shall provide sufficient maintenance funds to carry on the work successfully.
- (5) The aim of the courses of study shall be:
 - (a) Increased skill or knowledge in the occupation which the wage-worker is following.
 - (b) Skill or knowledge leading to promotion in the industry or calling wherein the wage-worker is engaged. The type, of course, will be the same as used for the evening industrial schools or classes. As an example as to type and content of course see Trades and Industry, Exhibit II, 1.
- (6) Methods of instruction shall conform to commercial shop practice and be given in the form of lectures and practice work to meet the individual needs and requirements of the pupils.
- (7) Instruction shall be given for not less than 144 hours per year. Where it is possible the time shall be arranged so that the student will devote half the time to related subjects and half the time to shop subjects; however, all the time may be devoted to either.
- (8) The types of teachers whose salaries may be paid in part from federal funds are:

First, shop teachers; second, related subjects teachers. Both types should be persons 25 years or more of age, of good personality, good health, high civic and personal ideals, and the capacity for leadership.

 - (a) Shop teachers should have a trade experience of at least two years beyond the apprenticeship period required to learn the trade or its equivalent, and in addition an elementary school education.
 - (b) The related-subjects teachers should be graduates from a standard high school and have two years' experi-

ence in the trades which are to be taught; or at least two years' education in a technical school of college grade, and successful contact with the trade for which academic and related instruction is to be given.

(c) Coordinators.

b. Trade-preparatory part-time schools or classes.

- (1) "The purpose of the trade-preparatory part-time school or class is to prepare persons over 14 years of age who have entered upon employment for useful occupation in a trade or industry other than the one in which they are employed."
- (2) Pupils must be over 14 years old.
- (3) The plant and equipment must be of standard quality and sufficient to guarantee efficient work.
- (4) Sufficient funds must be available to guarantee the successful performance of the work.
- (5) Owing to the many kinds of work and courses possible, each school will be dealt with separately. It is not anticipated that many schools of this type will be organized soon in Texas. For type courses, see trade-extension part-time courses, Exhibit II, 2.
- (6) The instruction should be given in the form of demonstrations and practical work to conform to commercial practices.
- (7) Instruction shall be given for not less than 144 hours per year. Preferably this should be given for four hours, or more per week, devoting one-half the time to the shop training and one-half to the related work. Other distribution of time is permissible.
- (8) Qualifications of teachers:
 - (a) Shop teachers should be men and women at least 25 years of age; have two years' experience beyond the apprenticeship stage of the work; and shall have completed the elementary school in academic work, or its equivalent.
 - (b) Related subjects teachers should be graduates of a first class high school and have two years' experience in the trades to be taught; or

at least two years' education in a technical school of college grade, and successful contact with the trade or trades for which related instruction is to be given.

(c) Coordinators.

c. General continuation part-time schools or classes.

(1) General continuation classes in which more than fifty per cent shall be general education subjects.

(a) These classes are for boys and girls regularly employed in unskilled occupations. The purpose is to continue the education of which they failed to take advantage in school.

(b) The work should be for persons over fourteen years of age.

(c) The plant and equipment must be sufficient to do the work attempted in an efficient manner.

(d) Sufficient maintenance funds must be provided to do efficient work.

(e) Instruction should deal with such subjects as: English, history, mathematics, civics, geography, drawing, and writing, and such other subjects as will enlarge the civic and vocational intelligence of those in the class. See Trades and Industry, Exhibit II, 3.

(f) Instruction should be given in the form of lectures, demonstrations and recitations.

(g) The work should be given for at least one hundred and forty-four hours per year during the working time of the pupil.

(h) Teachers:

1. The teachers should be good teachers who are qualified and have had experience in teaching. They should have intimate acquaintance with the needs of the pupils to be taught and hold certificates to teach the public schools of Texas.

2. Reimbursement may be made to teachers who spend a part or all of their time in

coordinating the work of the class with the daily employment of the pupils.

- (i) Salaries of teachers in part-time schools or classes for whites:
 - 1. Where teachers are employed in vocational part-time schools or classes, they shall be paid at the rate of not less than fifteen hundred dollars per year for the time devoted to such part-time vocational work.
- (2) General continuation part-time classes in which fifty per cent or more of the time may be devoted to commercial subjects.
 - (a) The instruction shall be suitable for pupils between fourteen and eighteen years of age and should be closely correlated with the requirements of the occupations in which they are employed.
 - (b) The equipment should be adequate to meet all the requirements of the course.
 - (c) The methods used in giving instruction should be of the most practical character. The course may include such subjects as: Practical English, business arithmetic, business writing, spelling, stenography, bookkeeping, typewriting, mimeograph and multigraph operating, advertising, office methods, etc. (Exhibit II.)
 - (d) The teachers shall be at least twenty-three years of age and have the equivalent of a four-year high school education. In addition, the teacher shall have had at least one year of practical business experience and completed an advanced course of not less than two years in length, one year of which must have been commercial. Proved ability as a teacher shall be required.
 - (e) Reimbursement may be made to teachers of commercial subjects in part-time general continuation classes, or to coordinators who

spend a part or all of their time in coordinating the work of the class and the office.

- (f) Salaries of teachers in part-time schools or classes for whites:
 - 1. Where teachers are employed in vocational part-time schools or classes, they shall be paid at the rate of not less than fifteen hundred dollars per year for the time devoted to such part-time vocational work.
- (g) At least one hundred and forty-four hours per year during the working time of the pupils shall be devoted to instruction.
- (3) General continuation classes in which fifty per cent or more of the course may be retail selling subjects.
 - (a) The instruction shall be suitable for pupils between fourteen and eighteen years of age and should be closely correlated with the requirements of the occupations in which they are employed.
 - (b) The equipment should be adequate to meet all the requirements of the course.
 - (c) The methods used in giving instruction should be of the most practical character. The course may include retail selling, textiles and merchandise, store problems, business English, business arithmetic, penmanship, spelling, hygiene, citizenship, related art, window dressing, show-card writing, and business ethics. (Exhibit II.)
 - (d) Teachers shall be at least twenty-three years of age and have the equivalent of a four-year high school education. In addition, they shall have had a special retail selling teacher-training course of at least one year, or the equivalent.
 - (e) Reimbursement may be made to teachers of retail selling subjects in part-time general continuation courses, or coordinators who spend

a part or all of their time in coordinating the work of the class and the store or office.

(f) Salaries of teachers in part-time schools or classes for whites:

1. Where teachers are employed in vocational part-time schools or classes, they shall be paid at the rate of not less than fifteen hundred dollars per year for the time devoted to such part-time vocational work.

(g) At least one hundred and forty-four hours per year during the working time of the pupils shall be devoted to instruction.

D. Day unit-trade school.

- a. The controlling purpose is to fit for useful employment in the trade taught.
- b. Pupils shall be not less than fourteen years of age.
- c. The equipment shall be adequate to teach the trade efficiently and to be as near as possible like that found in the commercial shop.
- d. The amount provided for maintenance shall be sufficient to carry the work on efficiently.
- e. The course of study shall be for pupils 14 years of age or over. The following conditions will obtain:

(1) In such a school or class there must be offered, as a minimum division of a six-hour day, at least three hours of shop work on a useful or productive basis, which may include such blue print reading, sketching, shop mathematics, or other related subjects as is incident to, and therefore, an essential part of the instruction.

(2) In cities of more than 25,000 population, this shop work is to be organized on a unit-trade basis and to be so conducted as, in the language of the law, "to fit for useful employment" those "who are preparing for a trade or industrial pursuit."

(3) The work in the shops must be open to all over fourteen years of age who are able to profit by the instruction offered and who desire "to fit themselves for employment in a trade or industrial pursuit."

- (4) All pupils taking such shop work must be offered facilities for continuing their general education either in regular or in special classes maintained for the purpose by the community establishing the vocational school or class.
 - (5) In addition to this minimum of three hours for shop work in a six-hour day, there must be offered a course in related subjects of not less than five hours per week. Where pupils taking training for unrelated trades are being taught, they shall be grouped separately, when numbers justify, for such instruction. When grouped together, the instruction shall be conducted on an individual basis. Such courses in related subjects shall be open to all pupils taking shop work who are capable of profiting by the instruction, irrespective of their academic grade.
 - (6) Where an industrial or trade class is operated as part of a high school organization, teachers in such general subjects as mathematics, physics, and chemistry will be expected to make practical applications, as far as possible, of the mathematical or scientific principles which they are teaching, to the shop work offered in such high school.
- f. Instruction will be given by demonstration and actual practice.
 - g. One-half the total time will be given to practical work on a useful or productive basis; the practical work will be carried on as nearly like commercial shop methods as possible.
 - h. The length of the school year shall be not less than nine months or thirty-six weeks.
 - i. The hours of instruction shall be not less than thirty hours per week.
 - j. Qualifications of teachers:
 - (1) Shop or trade teachers should be at least twenty-five years old and be masters of every part of their trade, and versed in its technical knowledge; graduates of at least the elementary school, or its equivalent; enjoy good health, habits, and personality and the ability to deal with adults outside of school, as well as with boys and girls in school. They should possess teaching ability and un-

derstand, as well as be in sympathy with, the organization and purpose of the vocational school.

(2) Related subjects teachers should have sufficient trade experience to enable them to make practical application of their instruction. They should have technical training in their special subjects equal to that represented by graduation from a secondary technical school. Their personal and teaching qualifications should be similar to those required of trade teachers.

(3) Teachers of non-vocational subjects should have a general knowledge of mechanics and processes used in the school, together with an application of industrial problems and the needs of the worker. Their educational, personal, and teaching qualifications should be similar to those required of technical teachers.

k. Salaries of teachers in day unit-trade schools or classes for whites:

Teachers employed to teach in day trade schools or classes shall be paid at the rate of not less than eighteen hundred dollars per year for the time devoted to the vocational trade work.

E. Day unit-trade schools in cities of less than 25,000.

a. (Same as under day unit-trade school in cities of over 25,000.)

b. (Same as under day unit-trade school in cities of over 25,000.)

c. (Same as under day unit-trade school in cities of over 25,000.)

d. (Same as under day unit-trade school in cities of over 25,000.)

e. (Same as under day unit-trade school in cities of over 25,000.)

f. The school year shall be not less than eight months.

g. The hours of instruction shall be not less than twenty-five hours per week.

h. Qualifications of teachers.

(Same as under unit-trade schools in cities of over 25,000.)

F. General industrial schools or classes for towns of less than 25,000 population.

Since there is no demand for this type of school in Texas, where classes are organized in the towns of less than 25,000 population, the unit-trade class will be the type of course followed.

a. The controlling purpose is to fit for useful employ-

ment. Manual training will not be considered as meeting the requirements, and will not be reimbursed.

- b. Pupils shall be at least fourteen years of age.
- c. The plant and equipment shall be adequate to carry on the work efficiently.
- d. The amount provided for maintenance shall be sufficient to guarantee the efficient performance of the work.
- e. One-half of the school day shall be devoted to the practical work on a useful or productive basis and shall include such related mathematics, science, blue print reading and shop sketching as is incident and essential to the trade. Forty minutes of the rest of the day shall be devoted to drawing.
- f. The school year shall be not less than eight months.
- g. The hours of instruction shall be not less than twenty-five hours per week.
- h. Qualifications of teachers:

The shop teachers shall be at least twenty-five years of age and have the same qualifications as is required of teachers of the unit-trade all-day classes or schools in cities of over 25,000 population.

3. Home economics education.

- A. A statement of the kinds of home economics education which the State Board intends to aid from federal funds during the fiscal year ending June 30, 1921.
 - a. Evening home economics schools or classes.
 - b. Part-time home economics schools or classes.
 - c. Day schools or classes.

B. Evening home economics schools and classes.

- a. The evening class student shall be at least sixteen years of age.
- b. Required plant and equipment.

The local board of control shall, previous to receiving aid for home economics education, provide adequate equipment for the type of courses offered.

c. Minimum for maintenance.

The State Board for Vocational Education will request an approximate statement for maintenance adequate for successful instruction.

d. Character and content of the course of study.

- (1) This should be adapted to local conditions and the special interests of the class members.

- (2) For types of unit courses which may be of-

ferred in evening home economics classes
see Home Economics, Exhibit I.

e. Character of evening class work.

The instruction offered in the evening school or classes shall be organized to meet the needs of the pupils and shall be supplementary to the day employment as home maker. Courses in home making are designed to provide instruction in the subjects in which an efficient home maker must be proficient. Such courses shall be open to all women, and shall be both elementary and more advanced in character in order to meet the needs, both of women with little experience in home making and of those having either experience or previous training in elementary course.

f. Method of instruction.

The method of instruction shall be recitation, laboratory work, and demonstration, or such combination as best meets the needs of the pupils and is best adapted to the particular subject. The practical work and essential related work will not be disassociated into regular recitation and laboratory periods, but will be combined into one class exercise.

g. Qualifications of teachers:

(1) Practical experience.

The teacher shall present satisfactory evidence of actual home and home management experience of at least two years. Successful home makers and women from the trades who have had special courses in the preparation for teachers, may be employed for some phases of the work.

(2) Training in home economics.

The teacher shall be a graduate from a two-year course of collegiate grade in home economics, in addition to graduation from a four-year high school course or the equivalent. Successful trade experience shall be accepted in lieu of part of the above requirements.

(3) Professional training.

The teacher shall have had sufficient professional training to present the work effectively.

(4) The teachers in evening schools for negroes shall have had at least two years' training in home economics above elementary schools, and before being employed for

such work must be approved by the state supervisor of home economics.

C. Part-time home economics schools or classes.

a. Age of pupils.

The part-time students shall be over fourteen years of age and shall have entered upon employment.

b. Required plant and equipment.

The plant and equipment shall be such as to guarantee efficient and practical instruction. In general, the plant and equipment shall be the same as for day schools. If, however, all subjects of the day school are not offered, the equipment shall be adequate for successful work of the type offered.

c. Minimum for maintenance.

The State Board for Vocational Education will request an approximate statement for maintenance adequate for successful instruction in home economics subjects and for the employment of teachers meeting the qualifications of the law.

d. Character and content of course of study.

The course of instruction for part-time schools shall be planned to meet the needs of the class. At least fifty per cent of the time will be given to home economics subjects. These will, in general, be arranged in a sequence of short units similar to evening school work. See Home Economics, Exhibit I.

e. Methods of instruction.

The method of instruction shall be recitation, laboratory work, and demonstration, or such combination as best meets the needs of the pupils and is best adapted to the particular subject. The practical work and essential related work will not be dissociated into regular recitation and laboratory periods, but will be combined into one class exercise.

f. Length of term—hours per week.

The length of term in such schools shall be not less than 144 hours of classroom instruction per year, nor less than four hours per week. (By hour is meant a clock hour of 60 minutes.)

g. Qualifications of teachers.

The qualifications of teachers in part-time schools shall approximate those of day schools or evening school teachers according to the groups of students to be instructed and the type of classes organized.

D. Day schools.

a. Age of admission.

Pupils must be fourteen years or over.

- b. Required or minimum plant and equipment.
The plant and equipment must be sufficient to guarantee efficient and practical instruction. The State Department of Education will furnish a list of equipment which indicates the minimum. It is expected that all schools will have more than minimum equipment. Information regarding equipment for negro schools will be provided by the Director of Home Economics Teacher-training of the Prairie View Normal.
- (1) For food study, cooking and preparation of meals.
A laboratory consisting of desirable equipment for food study, cooking, and the preparation and serving of meals. Sufficient equipment must be provided for individual and group work.
 - (2) For garment making and dressmaking.
One well heated, and lighted, and ventilated laboratory with sufficient and desirable equipment provided for work in garment making and dressmaking.
There should be at least one machine for every four girls, and facilities for pressing, fitting, etc., with necessary small equipment.
 - (3) For home nursing.
For home nursing adequate equipment must be provided for individual work. The State Department of Education will furnish a minimum list of necessary equipment.
 - (4) For laundry work.
Simple equipment for class practice work in laundry work should be provided.
- c. Minimum for maintenance.
The local community shall provide sufficient maintenance fund to carry on the work successfully.
- d. Character and content of course of study.
- (1) The course of study may be one to four years in length. The course most in use in Texas is a two-years' course.
 - (2) Two courses of study may be offered and either may be used according to the needs of the school. In one of these, the half day of practical work is devoted to home economics subjects only, and the other half day to related science and art and non-vocational subjects. In the other program, the half day of practical work is devoted to home economics

and related subjects and the other half day to non-vocational subjects.

- (3) For cities and towns of 25,000 population or less:

Instruction may include not less than eight months per year and not less than twenty-five hours per week. Fifty per cent of the time each week shall be devoted to vocational work.

- (4) For cities and towns of 25,000 population or more:

Instruction must include not less than nine months per year and not less than thirty hours per week. Fifty per cent of the time each week shall be devoted to vocational work.

- (5) For explanation of vocational, non-vocational, related, and home economics subjects. see Home Economics, Exhibit II.

- (6) For types of courses of study for all day schools, see Home Economics, Exhibit III.

Note 1. In the majority of the schools in which vocational home economics is taught this course will be given in the ninth and tenth grades, and in a few schools the work will be given through the eleventh grade.

Note 2. The courses included in the Home Economics Syllabus published by the State Department of Education, May, 1920, will be used in all vocational classes, unless the teacher of vocational home economics offers a course, in the beginning of the year, which may be approved by the state supervisor of home economics. This is Bulletin 114, procurable from the State Department of Education.

Note 3. For types of vocational home economics for negro schools, see Home Economics, Exhibit IV.

e. Methods of instruction.

Practical work and essential related instruction courses involving practical work, will not be dissociated into regular recitation and laboratory

periods, but shall be combined in one class exercise. The method of instruction should be based upon the following:

- (1) The teaching of home economics education through both instruction and supervised study.
- (2) The abundant use of references and approved text books for at least two phases of home economics education.
- (3) The abundant use of illustrative material from industries, lantern slides, and charts.
- (4) Supervised school of home projects in home economics education.

See Bulletin 114, page 9, vocational course.

- f. At least a half day shall be devoted to practical work on a useful or productive basis which may include home economics subjects or home economics subjects and related work, provided that at least a minimum of 120 minutes of a six-hour day and a minimum of ninety minutes of a five-hour day will be devoted to home economics subjects.

- g. Length of school year.

- (1) In cities or towns of more than 25,000 population the school year must be nine months.
- (2) In cities or towns of less than 25,000 population the school year may be less than nine months.

- h. Hours of instruction per week.

The hours of instruction must include not less than thirty hours per week for cities of over 25,000 population. This may be reduced to twenty-five hours per week for cities of less than 25,000 population.

- i. Qualifications of teachers.

- (1) The teacher shall present satisfactory evidence of actual home and home management experience of at least two years or have acquired such experience as a part of her preparation.
- (2) The completion of a four-year course of collegiate grade in vocational home economics education, in addition to graduation from a four-year high school course or the equivalent.

Note 1. In order to secure teachers best adapted to rural and small town conditions, the State Board for Vocational Educa-

tion reserves the privilege of making exceptions to the above qualifications for the school year 1920-21.

Note 2. Negro teachers of vocational home economics who have graduated from a two-year course in home economics in addition to the completion of the elementary school will be accepted for the years 1920-21 and 1921-22. It is the aim of the members of home economics teacher-training staff at the Prairie View State Normal and Industrial College to be able to provide a sufficient number of graduates from the four-year course in home economics by 1922 to be able to increase the standard of the home economics teachers in the negro schools.

Note 3. The college course must be such as to give at least ten per cent of the work in the professional branches of education. This work in education must include one course in psychology, and one course in the teaching of home economics subjects. Unless the teacher has had experience in teaching, her college course must have included a course in supervised practice teaching.

Note 4. The teachers in evening schools for negroes shall have had at least two years' training in home economics and shall have finished one elementary school course, and before being employed for such work must be approved by the state supervisor of home economics.

V. TEACHER-TRAINING.

1. Proposed percentage use of funds for training teachers of:
 - A. Agricultural subjects, including supervision, 33 $\frac{1}{3}$ %.
 - a. For work in institutions, 21 $\frac{1}{3}$ % or \$9,000.00.
 - b. For supervision, 12% or \$5,087.00.

- B. Trade and industrial subjects, including supervision, 33 $\frac{1}{3}$ %.
 - a. For work in institutions, 21 $\frac{1}{3}$ % or \$9,000.00.
 - b. For supervision, 12% or \$5,087.00.
- C. Home economics subjects, including supervision, 33 $\frac{1}{3}$ %.
 - a. For work in institutions, 21 $\frac{1}{3}$ % or \$9,000.00.
 - b. For supervision, 12% or \$5,087.00.

Note: The above amounts are approximate.

2. Agriculture.

A. Teacher-training institutions.

The State Board for Vocational Education proposes to train teachers of vocational agriculture in the following state institutions:

Agricultural and Mechanical College, College Station, Texas; Sam Houston Normal Institute; Prairie View Normal and Industrial College, Prairie View, Texas (for negroes).

Entrance requirements will not be the same for both white and negro institutions. See note below, under B., Entrance Requirements.

Note: Improvement of teachers in service, promotion of new work, and general supervision of all teacher-training work will be done by the representatives of the State Board for Vocational Education.

B. Entrance requirements:

Graduation from a four-year high-school course, including fourteen units of high-school credit, or the equivalent.

Note: For negro schools, the completion of the tenth grade will be required for entrance.

C. Length of course:

- a. In years—The course of study shall cover a period of at least four years of college grade in agriculture.
- b. In unit hours—The course of study shall consist of at least 120 semester hours, or the equivalent.

D. Courses of study and equipment.

a. Course of study.

The course of study should include work in four groups of subjects, as follows:

	Per cent.
Agricultural subjects.....	38 to 40
Sciences	25 to 30
Humanistic	15 to 20
Professional	10 to 15

For outline of courses as given by teacher-training institutions, see Agriculture, Exhibit I.

b. Equipment:

Institutions shall be well equipped with farm animals, buildings, land, and machinery; shall have adequate laboratory facilities and a sufficient staff of competent instructors in all subject

groups to enable the work to be taught effectively. Before such institutions will be approved by the State Board as entitled to reimbursement from the federal funds, equipment and an instructional staff must be provided to give vocational instruction of college grade in at least the following lines: agronomy, animal husbandry, poultry raising and dairying, horticulture, and agricultural engineering, as well as in professional lines of agricultural education.

E. Provisions for observation and practice teaching.

Each student, before graduation, must have completed at least three semester hours of practice teaching in agriculture under supervision of the supervisors of the State Department of Education.

F. Graduation requirements:

a. A student must complete at least 120 semester hours, or the equivalent, including all required courses for teachers of agriculture.

b. Each student must have had at least one year's farm experience, after his twelfth birthday, before graduation.

G. Relation to certificate.

Completion of the vocational agricultural course in an approved teacher-training institution entitles a person to teach vocational agriculture for one year. Upon the completion of one year's successful teaching of this work, the State Board for Vocational Education will grant a permanent vocational agricultural certificate.

3. Trades and industries.

A. Teacher-training institutions.

All teacher-training courses will be under the supervision of the State Board for Vocational Education.

Training of prospective teachers of trade and industrial subjects will be given in the following institutions:

University of Texas, Austin; Agricultural and Mechanical College, College Station; North Texas State Normal College, Denton; Prairie View Normal and Industrial College, Prairie View (for negroes).

B. For white schools.

The work to be undertaken by institutions in the teacher-training classes will cover the following:

a. Shop teachers.

Shop teachers will be trained in industrial centers by itinerant teacher-trainers.

(1) Entrance requirements:

Only those persons are eligible who have become masters of their trade or who are acquiring such mastery at the time of enrolling. They shall be graduates of an elementary school, or its equiv-

alent; have a minimum of two years' trade experience beyond the period required to learn the trade, commonly known as the apprentice period; they shall be at least 25 years of age; be chosen because of their high standing among the workmen of their trade; and possess good health and character.

- (2) Length of course.
 - (a) Two years.
 - (b) 240 unit hours (class hours).
- (3) Course of study.

The following is suggested as a course which will meet the requirements for the average teacher-training course, extending over a period of two years with a total of two hours per night for 60 nights per year:

Mechanics of teaching in practical methods—60 hours.

Related mathematics, science and drawing—120 hours.

Observation and practice teaching—60 hours.

Follow-up supervision period after employment—two years. This will be done by the state supervisors.

- (4) Provisions for observation and practice teaching.

This provision will be made in connection with the day classes in the city schools, or evening classes to be organized in the city where the teacher-training class is held. Where necessary, special shop classes for this purpose will be organized. This will be done under the supervision of the teacher-training staff.

- (5) Graduation requirements.

Completion of the above course will be satisfactory evidence of the individual's ability to give instruction in shop practice.

- (6) Whenever any individual completes the above course of study and shows evidence of possessing all other required qualifications, a special certificate will be issued to him.

b. Related subjects teachers.

- (1) The entrance requirements to courses preparing teachers of related subjects shall be the completion of a standard four-year

- high school course, or its equivalent. Due consideration will be given candidates who have the required experience.
- (a) Teacher of manual training or
 - (b) Trade experience in the industry and who are of a mature age.
- (2) Length of course.
- (a) In years—2 to 4 years.
 - (b) In unit hours—3400 hours as a minimum.
- (3) The following course of study is submitted as a tentative program. Each institution may submit minor changes:

TWO-YEAR COURSE.

	60- Minute	No. of Hours	Approximate per- cent of total
<i>Non-Vocational Subjects</i>			
English	160	320	12
Science, chemistry or physics	160		
<i>Professional Subjects</i>			
General psychology	80	480	18
Educational psychology..	80		
History of industrial education	80		
Organization and admin- istration of industrial education	80		
Methods of teaching in- dustrial schools.....	80		
Observation and practice teaching	80		
<i>Related Technical Subjects</i>			
Drawing—machine de- sign, including free- hand shop sketching....	200	800	30
Drawing—elementary architectural, includ- ing freehand sketching	200		
Shop mathematics.....	200		
Elementary mechanics and strength of mate- rials	200		
<i>Practical Shop Work</i>			
Woodwork (carpentry and cabinet making)..	200	1000	40
Electrical construction...	100		
Machine shop.....	200		
Forging	100		
Sheet metal.....	100		
Wood pattern making and moulding	100		
Modern building con- struction, including building codes, draft- ing for carpentry, electrical wiring, plumbing, sheet metal, masonry	100		
Auto mechanics—gas en- gine and automobile work	100		
Total hours in residence....		2600	
Trade contact, 20 weeks....		880	
Shop work as a carpenter, machinist, plumber, sheet metal worker, electrical constructor, mason or auto mechanic, not more than ten weeks vacation, or after the course has been completed.			
Total hours.....		3480	

Provision will be made for giving certain courses each summer session in order that teachers of manual training who wish to qualify as vocational teachers may take the above course. By this means opportunity will be provided for shop teachers now teaching in vocational schools to extend their qualifications.

- (4) Opportunity for observation and practice-teaching will be provided at the institution, if practicable, in approved unit-trade classes or in cooperation with the city school system in which the institution is located.
 - (5) Graduation requirements. Completion of the above course.
 - (6) Relation to certificate. A certificate will be issued upon satisfactory completion of the course. Where the course covers four years and fulfills college requirements for graduation, a degree will be given as well as a certificate in vocational education.
- c. General continuation, part-time school teachers. The State Board does not plan to train general continuation part-time school teachers.
- d. Training of teachers who have entered service. This will be done exclusively under the supervision of the State Board for Vocational Education.
- (1) Character of work to be undertaken for white teachers.

The State Board for Vocational Education proposes to train teachers in service through an arrangement whereby the supervisors for trade and industrial education will devote a large part of their time to extension teacher-training as follows:

- (a) By making visits and observing the work of the teachers; by instruction given in afternoon or evening classes.
- (b) Extension courses through:
 1. Conferences and demonstration.
 2. By correspondence.
 3. By personal visits.
 4. Help in preparing courses of study.
 5. Bulletins.

- (2) Time devoted to the work.

The time devoted to the work will vary according to the needs of the group trained. It may be one or two weeks.

C. For colored schools.

The State Board for Vocational Education offers the following to be carried out in the training of colored teachers for trade and industrial schools:

a. Shop teachers.

It is proposed to train shop teachers in residence at school, or when found advisable, to send an itinerant teacher-trainer from the school to the industrial center or locality where a class may be conducted.

- (1) Entrance requirements:

Those enrolled in these classes shall be graduates of the elementary school or its equivalent. They shall have two years' experience beyond the period of learning the trade. They shall be at least 22 years old, possess good health and character.

- (2) Length of course:

(a) One year.

(b) 120 unit hours (60-minute hours).

As soon as practicable this shall be followed by a second year of 120 hours.

- (3) Course of study.

The following course of study is suggested to meet present requirements:

Mechanics of teaching (practical methods), 40 hours.

Related mathematics, drawing and science, 50 hours.

Observation and practice teaching, 30 hours.

Follow-up supervision period after employment, 1 year.

- (4) Provisions for observation and practice teaching. This will be provided by means of unit-day trade classes being carried on at the institution or in cooperation with the city schools where the teacher-training class is held, or in evening classes conducted for this purpose. This will be under the supervision of the teacher-training staff.

- (5) Graduation requirements. Satisfactory completion of the above course will be evi-

dence of the individual's fitness and ability to give instruction in shop practice.

- (6) Relation to certificate. Upon satisfactory completion of its course and fulfillment of all other required qualifications a special certificate will be issued.

b. Related subjects teachers.

Related subjects teachers shall be prepared in residence at the institution.

- (1) Entrance requirement.

- (a) Graduation from a four-year high school, or its equivalent,
- (b) Successful contact with several trades as a manual training teacher, or
- (c) Practical experience in trade work will be preferred of candidates.

- (2) Length of course.

- (a) In years—2 to 4 years.
- (b) In unit hours—3390 hours.

- (3) The following course of study is submitted as a tentative program:

TWO-YEAR COURSE.

	60- Minute	No. of Hours	Approximate per cent of total
<i>Non-Vocational Subjects</i>		280	12
English	140		
Science, chemistry and physics	140		
<i>Professional Subjects</i>		350	14
Educational psychology..	70		
History of industrial education	70		
Organization and admin- istration of industrial education	70		
Methods of teaching in industrial schools.....	70		
Observation and practice teaching	70		
<i>Related Technical Subjects</i>		800	33
Drawing — elementary agricultural, including freehand sketching.....	200		
Drawing — machine de- sign, including free- hand shop sketching..	200		
Shop mathematics.....	200		
Elementary mechanics and strength of mate- rials	200		
<i>Practical Shop Work</i>		1000	40
Woodwork (carpentry, cabinet making and wheelwright work)....	200		
Blacksmithing	100		
Auto mechanics.....	200		
Tailoring and dry clean- ing	100		
Shoemaking	50		
Plumbing	50		
Printing	50		
Laundry work.....	50		
Stationary engineering..	100		
Painting	50		
Cement work.....	50		
Total hours in residence....		2430	
Trade contact of 20 weeks in at least two of the above trades.			
Not more than ten weeks in one trade to be taken during the summer va- cation or after gradua- tion		960	
Total hours for grad- uation		3390	

During the summer session certain courses will be offered to give teachers of manual training who wish to qualify as vocational teachers the opportunity to do so. This will also provide opportunity for shop teachers in vocational schools to extend their qualifications.

- (4) Provision for observation and practice teaching.

Sub-collegiate classes in trades and industries in the institution may be used for practice teaching. College classes may be used for observation.

(5) Graduation requirements.

Completion of the above course is required for graduation.

(6) Relation to certification.

The State Board for Vocational Education proposes to certify those students completing the course. If the course is planned to cover four years, the institution may give a degree in addition to the certificate.

c. General continuation, part-time school teachers.

The State Board does not plan to train these teachers.

d. Training of teachers who have entered service.

(1) Character of work to be undertaken.

The State Board for Vocational Education proposes to train teachers in service through an arrangement whereby one of the teachers of industrial education in the Prairie View Normal and Industrial College for Negroes will spend a part of his time in extension teacher-training as follows:

(a) By visiting the school and observing the work of the teachers; by giving instruction in afternoon or evening classes.

(b) Extension courses through:

1. Conferences and demonstrations.

2. By correspondence.

(2) Time devoted to the work. This will vary according to the needs of the particular group to be trained.

4. Home economics.

A. It is the plan of the State Board for Vocational Education to provide for training teachers of vocational home economics at the following state institutions:

University of Texas, Austin, Texas; College of Industrial Arts, Denton, Texas; Southwest Texas State Normal College, San Marcos, Texas; the Prairie View Normal and Industrial College, Prairie View, Texas (for negroes).

The teacher-training courses given by the University of Texas and by the College of Industrial Arts fulfilled the requirements of the State Board for Vocational Education in 1918-19, and these courses are being continued with a few changes. The programs of work for all of these institutions are included in the Home Economics, Exhibit V.

a. Improvement of teachers in service, promotion of new work, and general supervision of all teacher-

training work will be done by the representatives of the State Board for Vocational Education.

- b. Improvement of teachers in service, promotion of new work, inspection of equipment in classrooms and laboratories in the home economics departments in the negro public schools will be done by the professor of home economics teacher-training in the Prairie View State Normal and Industrial College, under the supervision of the state supervisor of vocational home economics.

B. Entrance requirements.

Graduation from a four-year high school or its equivalent, including fifteen units of high school credit.

Note: For negroes, the completion of the tenth grade or fourteen high school units, is necessary for entrance into the course offered at Prairie View.

C. Length of course.

a. In years.

The course of study shall cover a period of four years.

b. In unit hours.

The course of study shall cover at least 120 semester hours, or its equivalent.

D. Course of study.

This will include four groups of subjects with the percentage distribution of hours as follows:

Home economics subjects, 25%-35%.

Related subjects, 25%-20%.

Professional subjects, 10%-15%.

General subjects, the remainder to make 100%.

- (1) Home economics subjects shall be interpreted as:

Selection and construction of clothing.

Textiles.

Selection and preparation of food.

Nutrition and dietetics.

Advanced clothing.

Child care.

Household management, including supervised practice work in a home.

- (2) Related subjects shall be interpreted as:

Science:

Biology.

Physiology.

Chemistry (inorganic, qualitative, quantitative, organic, including food analysis, textile, physiological).

Physics.

Bacteriology.

Home nursing.

Art:

Elementary design.

Advanced design, as applied to the household.

House planning.

(3) Professional courses shall be interpreted as:

Elementary psychology.

General methods.

Special methods.

Principles of vocational education.

Practice teaching in home economics.

(4) General courses shall be interpreted as:

English.

Civics.

Sociology.

Economics.

History.

E. Observation and practice teaching:

a. Provision is made in each of these institutions for observation and practice teaching.

In the University of Texas this work is done in the Austin Public Schools.

The College of Industrial Arts maintains a sub-freshman year of work which is used for observation and practice teaching in home economics. Students of this institution will have the opportunity to observe in vocational home economics departments in near-by schools.

In the Southwest Texas State Normal at Sam Marcos this work is done in the eighth and ninth grades of the training school.

In the Prairie View State Normal and Industrial College (for negroes) this work will be done in the academy of that institution which includes the ninth and tenth grades.

b. Each student will have from 40 to 45 ninety-minute periods of practice teaching under supervision, and will have the opportunity to observe in vocational home economics departments in near-by schools.

F. Graduation requirements:

a. The course of study in each institution includes a strong course in supervised home management. Practice cottages are now in use at the University of Texas, the College of Industrial Arts, and the Southwest Texas Normal College. Authorities of Prairie View Normal and Industrial College promise to make such provision by the time the work begins. The appropriations to the institutions depend on the carrying out of this plan.

Besides the twelve weeks supervised home-keeping experience, the University of Texas demands "evidence of at least two years' experience as a house daughter, including a summer period of actual home management."

- b. The completion of the prescribed course of study in each institution is demanded. Each course consists of a minimum of one hundred twenty term hours. (See Home Economics, Exhibit V.)
- c.
 - (1) When satisfactory home making experience is indicated by practical and theoretical tests, credit in vocational experience will be given.
 - (2) Suitable home projects done in high school may be accepted as part of the required vocational experience.
 - (3) Vacation work: At least three 4-week units of vocational experience gained during vacation shall be required except in cases of institutions requiring twelve weeks of practice house work.

In such cases four weeks of vacation work may be omitted. Plans for summer work must be submitted and approved beforehand by the faculty of the teacher-training department and written reports must be submitted on the completion of the work.

- (4) Practice house. At present from three to twelve weeks of practice house residence are required in the state. The plan is to require not less than six weeks in any institution as a minimum.
- G. As soon as funds are available, there will be a demand for mature women with home and trade experience for teachers of part-time and evening classes. The University of Texas and the College of Industrial Arts stand ready to provide training for these teachers, a plan for which will be submitted when the demand is sufficient.
- H. Relation to certification.
 - a. A special certificate in vocational home economics will be granted graduates of teacher-training institutions by the State Board for Vocational Education.
 - b. Graduation from the prescribed course in any one of the teacher-training institutions for vocational home economics entitles a person to teach a year in a vocational school. At the completion of one year's successful teaching of vocational home economics the State Board for Vocational Education will grant a permanent vocational home economics certificate.

AGRICULTURE.

EXHIBIT I.

I. TEACHER TRAINING COURSES IN VOCATIONAL AGRICULTURE.

1. For whites.

A. Agricultural and Mechanical College.

160 semester hours required for graduation.

FRESHMAN YEAR.

First Term.	Hours per week			Hours per week.	
	Th.	Pr.		Th.	Pr.
Agronomy 101 (Crop production)...	3		Animal husbandry 104 (Live stock production).....	2	4
Animal husbandry 103 (Live stock production).....	2	4	Biology 102 (General botany).....	2	4
Biology 101 (General botany).....	2	4	Chemistry 102 (Inorganic).....	3	3
Chemistry 101 (Inorganic).....	3	3	Dairy husbandry 102 (Dairying)...	3	2
English 103 (Rhetoric and composition).....	3	0	English 104 (Rhetoric and composition).....	3	0
Military science 101 or 103.....	1	2	Military science 102 or 104.....	1	2
	<u>14</u>	<u>15</u>		<u>14</u>	<u>15</u>

SOPHOMORE YEAR.

Agricultural engineering 201 (Farm machinery).....	2	2	Biology 202 (Zoology).....	1	4
Animal husbandry 201 (Poultry)...	2	2	Chemistry 206 (Organic).....	3	2
Biology 201 (Zoology).....	1	4	Chemistry 212 (Introductory soil geology).....	3	2
English 201 (Literature).....	2	0	English 202 (Literature).....	2	0
English 203 (Composition).....	1	0	English 204 (Composition).....	1	0
Horticulture 201 (Plant propagation and orcharding).....	3	2	Horticulture 202 (Vegetable gardening).....	3	2
Military science 201 or 203.....	1	2	Military science 202 or 204.....	1	2
Physics 205 (Agricultural physics)...	2	4		<u>—</u>	<u>—</u>
	<u>14</u>	<u>16</u>		<u>14</u>	<u>12</u>

JUNIOR YEAR.

Agronomy 301 (Soils).....	4	2	Agronomy 302 (Farm crops).....	4	2
Chemistry 309 (Agricultural chemistry).....	3	4	Economics 306 (Fundamental principles).....	3	0
English 301 (argumentation).....	1	0	English 302 (Argumentation).....	1	0
Vocational Teaching 305 (Vocational education).....	3	0	Vocational teaching 308 (Educational psychology).....	3	0
*Elective.....	6	..	*Elective.....	8	..
	<u>17</u>	<u>6</u>		<u>19</u>	<u>2</u>

SENIOR YEAR.

Rural social science 401 (Rural economics).....	3	0	English 402 (Public speaking).....	1	0
English 401 (Public speaking).....	1	0	Farm management 402.....	3	4
Textile engineering (Cotton classing)	1	2	Rural social science 402 (Rural sociology).....	3	0
Vocational teaching 401 (Methods of teaching agriculture).....	3	0	Vocational teaching 402 (Administration of high school agriculture)	2	2
Vocational teaching 409 (Supervised teaching).....	3	0	*Elective.....	8	..
*Elective.....	8	..		<u>—</u>	<u>—</u>
	<u>19</u>	<u>2</u>		<u>17</u>	<u>6</u>

*Elective work to be approved by the professor of vocational teaching.

2. For negroes.
 Prairie View Normal and Industrial College.
 146 hours required for graduation.

FRESHMAN YEAR.

First Semester.		Second Semester.	
English 301.....	3	English 302.....	3
Mathematics 301.....	3	Botany 302.....	3
Chemistry 301.....	3	Chemistry 302.....	3
Agronomy I.....	2½	Agronomy II.....	2½
Veterinary science I.....	3	Veterinary science II.....	3
Horticulture I.....	3	Horticulture II.....	2
		Animal husbandry I.....	3
	<hr/>		
	17½		<hr/>
			19½

SOPHOMORE YEAR.

English 401.....	3	English 402.....	3
Chemistry 501.....	3	Agricultural chemistry I.....	3
Zoology 401.....	3	Zoology 402.....	3
Physics 401.....	3	Physics 402.....	3
Animal husbandry II.....	3	Animal husbandry III.....	3
History of agriculture.....	2	Vocational education I.....	2
	<hr/>		
	17		<hr/>
			17

JUNIOR YEAR.

Economics 501.....	3	Agricultural economics.....	3
Agricultural physics I.....	2	Agricultural physics II.....	2
Animal husbandry IV.....	3	Farm repairs.....	2
Farm management I.....	2	Farm management II.....	2
(1) Vocational education II.....	3	Horticulture III.....	2
(1) Elective (approved).....	3	(1) Vocational education III.....	3
	<hr/>	(1) Elective (Free).....	3
	16		<hr/>
			17

SENIOR YEAR.

Economic entomology I.....	2	Economic entomology II.....	1
Genetics.....	3	Agricultural bacteriology.....	3
Rural sociology.....	2	Horticulture IV.....	2
(1) Vocational education IV.....	3	(1) Vocational education V.....	2
(1) Observation and critic teaching.....	2	(1) Practice teaching.....	2
(1) Extension service I.....	3	(1) Extension service II.....	3
(1) Rural organization and cooperation.....	2	(1) Rural credits.....	2
(1) Elective (approved).....	2	(1) Elective (approved).....	2
Elective (free).....	3	(1) Elective (free).....	3
	<hr/>		
	22		<hr/>
			21

TRADES AND INDUSTRY.

I. EVENING INDUSTRIAL SCHOOLS OR CLASSES.

Courses of Study.

The course of study for the evening class in industrial education will be approved when it meets the following conditions:

- (1) It should give training for the trades and industries dominant in the community.
- (2) It should prepare the pupils to meet the demands of the trade or occupation he is following.
- (3) It should be based upon the advice and experience of an advisory committee representing the various trades and industries for which the class gives helpful instruction.
- (4) The course of study should be composed of a series of short-unit courses.

(5) It should lead to advancement in the trade.

Evening classes are usually planned to give two-hour lessons two or three times a week.

Unit Courses.

Experience has demonstrated that the productive wage earner can be dealt with successfully by short-unit courses which meet his next need as a workman and give him his next step forward. The unit course has no fixed length. A course may be one hour, ten hours, or fifty hours in length. An organization of short-unit courses makes it possible for a worker to come into the evening class, take one or more courses he needs and depart without interfering with the organization of the school. The following courses are suggestive:

TRADE AND INDUSTRIAL EDUCATION EXHIBITS.

EXHIBIT I.

(1) Type course for evening trade extension classes.

For Auto Mechanics. Time—2 hours per lesson.

Wheels	5 lessons
Axles	5 lessons
Springs	5 lessons
Chassis	5 lessons
Carburetors	10 lessons
Engines	20 lessons
Ignition	5 lessons
Wiring	5 lessons
Generators	5 lessons
Lubrication	5 lessons

Type Short-Unit Course for Machinists. Time—2 hours per lesson.

Drilling—Flat, circular and irregular work.....	6 lessons
Boring—Counter sinking, counter boring, reaming, etc.	6 lessons
Shaper—Planing, regular, horizontal and vertical surfaces	6 lessons
Miller—Milling, end, side and slot cuts. Use of dividing head and cutting gear teeth, etc.....	10 lessons
Lathe—Turning, threading, internal and external boring, etc.....	20 lessons
Grinder—Cylindrical and flat surfaces, tool grinding, etc.	10 lessons
Blue print reading.....	6 lessons
Mensuration and metric tables.....	6 lessons
Applied arithmetic—thread measurements and computation. Calculation of horsepower of engines.....	5 lessons

Type Short-Unit Courses for Carpenters and Builders.

Blue print reading.....	10 lessons
Making drawings.....	20 lessons

Use of the steel square.....	10 lessons
House framing.....	10 lessons
Roof framing.....	10 lessons
Stair building.....	10 lessons
Shop mathematics.....	10 lessons

Type Short-Unit Course for Table Service.

	Time.
1. Organization of hotel or restaurant	2 hours
A. Personnel	1 hour
1. Kitchen.	
2. Storeroom.	
3. Dining room.	
B. Equipment and supplies	1 hour
Location of linen, silver, glassware, china, condiments, etc.	
2. Personal address	3 hours
A. Appearance.	
1. Uniform.	1 hour
2. Care of hair.	
3. Carriage.	
4. Care of skin and nails.	1 hour
5. Care of teeth.	
B. Approach to guest.	1 hour
Courtesy.	
3. Service.	6 or 7 hours
A. Preliminaries.	
1. Seating of guests.	
2. Menu card.	
B. Taking the order.	1 hour
1. Method—written or oral.	
2. Guest's preference in serving of coffee, salad, etc.	
C. Setting the table.	
1. Changing the cloth.	
2. Placing napkin, silver, glasses, etc.	
3. Uses of utensils (silver, china, etc.).	
4. For special occasions.	
D. Serving the order.	1 to 3 hours
1. Use and preparation of tray.	
2. Arrangement of salad, coffee, side dishes.	
3. Method of serving.	
E. Removal of dishes.	
1. Method.	1 hour
2. Disposal of touched and untouched foods.	
3. Cleaning table or counter.	
F. Efficiency.	
1. Speed.	1 hour
2. Quality.	
3. Headwork.	

4. Miscellaneous.
 - A. Meaning of menu terms, foreign phrases, etc.
 - B. Tips.
 1. Attitude toward.
 2. Amounts generally given. 1 hour
 3. Tips to fellow workers.
 - C. Complaints of guests.
 - D. Special courtesy to helpless guests.
5. Washing dishes (with demonstration). 1 hour
 - A. Glassware.
 - B. Silver.
 - C. China.
6. Service for special dinners and banquets (with demonstration). 1 hour
7. Carving and pantry service (with demonstration).
 - A. Dining room carving.
 - B. Serving of meats. 1 hour
 - C. Pantry service.
8. Trade ethics. 1 hour
 - A. Relation to fellow workers.
 - B. Relation to guests.
 - C. Relation to management.

(2) Types of short-unit course in textiles.

Cotton Mill Arithmetic—48 Lessons.

- (a) Addition, multiplication, subtraction, and division in mill terms; ends of warp, bobbins of filling, cans of sliver and doffs of roving.
- (b) Decimals and their practical application to mill calculations.
- (c) Proportion in terms of speed, pulleys, and gears.
- (d) Table of lengths: inches, yards, skeins, and hanks.
- (e) Table of weights: grams, ounces, and pounds.
- (f) Simple yarn calculations.
 - (1) Find the counts when the length and weight are known.
 - (2) Find the length when the weight and counts are known.
 - (3) Find the weight when the counts and length are known.

Spinning Room Calculations—8 Lessons.

- A. Draft calculations.
 - (a) Find the draft.
 - (1) From the gearing.
 - (2) From roving being fed and yarn being made.
 - (b) Find the draft constant.
 - (c) Find the draft gear.
 - (1) When the draft and draft constant are known.

- (2) When changing from one number to another, the draft and roving both being changed.
 - (3) When changing from one number to another, without changing the roving.
- B. Twist calculations.
- (a) Find the twist.
 - (1) From the gearing.
 - (2) From twist multiplier and yarn to be made.
 - (b) Find twist constant.
 - (c) Find twist gear.
 - (1) When the twist and twist constant are known.
 - (2) When changing from one number to another.
 - (3) When the frame has a double or compound twist gear.
- C. Production calculations.
- (a) Find the production.
 - (1) When the revolutions per minute and diameter of the front roll, also the counts of yarn being made, are known.
 - (2) When the revolutions per minute of the spindles, the twist, and the counts of the yarn are known.
 - (3) Short method.
- D. Traveler calculations.
- (a) The size traveler required when changing from one number of yarn to another.
- E. Builder calculations.
- (a) The number of teeth required when changing from one number of yarn to another.
- F. Reading tables.
- (a) Breaking strength.
 - (b) Yarn numbers.
 - (c) Travelers.
 - (d) Drafts.
 - (e) Draft gears.
 - (f) Twists.
 - (g) Twist gears.
 - (h) Production.
 - (i) Wages.
 - (j) Humidity.
- G. Figuring the pay roll.
- (a) Day work.
 - (b) Piecework.

These textile courses are taken from Federal Bulletin No. 30.

Suggestive Material for Outlining Short-Unit Courses.

Electricians.—Making drawings. Reading drawings. Inside and outside wiring. Motor work.

Plumbers.—Reading drawings. Making drawings. Shop mathematics.

Cooking.—(1) Catering. (2) Cafeteria service. (3) Cooks. (4) Waitress.

Masons.—Reading drawings. Making drawings.

Pattern Makers.—Reading drawings. Making drawings.

Sheet Metal Workers.—Reading drawings. Making drawings. Shop mathematics.

Power Machine Operating.—(1) Elementary. (2) Intermediate. (3) Advanced. (4) Special machines.

II. TRADE AND INDUSTRIAL PART-TIME SCHOOL OR CLASSES.

Chart of difference and similarities in the three types of part-time schools.

Kind of school.	Trade extension.	Trade preparatory.	General continuation.
Controlling purpose.	To supplement daily work.	To prepare for a trade or industrial pursuit.	To extend and supplement general education.
Age of admission and maximum age.	Entrance, 14 years. No maximum.	Entrance, 14 years. No maximum.	Entrance, 14 years.
Necessary plant and equipment.	Varies according to trade or industry; may be small in case work is related subjects.	Must approximate that used in industry.	Usual classroom and laboratory manual training.
Minimum for maintenance.	Variable.	Variable.	Variable—Least cost of three types.
Character and content of courses of study.	Supplements daily work. Depends upon individuals.	Experiences from vocations studied.	Subjects to enlarge civic and vocational intelligence.
Length of course.	144 hours a year. Minimum.	144 hours a year. Minimum.	144 hours a year. Minimum.
Qualifications of teachers.	Master of trade or technical subjects or both.	Master of trade or technical subjects or both.	Teacher of experience in elementary or high school with appreciation of industry.
Aim for pupils.	To better fit for employment in work now engaged in.	To learn a trade while engaged in some other occupation.	To add to general education.

EXHIBIT II.

1. Trade-extension part-time classes. Total time—144 hours.

Type Course for Cabinet Workers.

	Hrs. per Wk.	Wks.
<i>Shop Work.</i>		
Types of machines and their uses.....	2	18
Related mathematics; strength of materials; use of tables.....	1	18

Shop Sanitation.

Lighting, heating, safety fusion appliances, and laws regulating employment.....	1	18
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Drawing.

Blue print reading, sketching, making lay- outs for jobs.....	2	18
--	---	----

Science.

Science related to friction, etc., of machines	1	18
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<i>Industrial economics</i>	1	18
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2. Trade preparatory part-time class.

Type Course for Telegraphers.

	Hrs. per Wk.	Wks.
<i>Shop work</i>	2	36
<i>Science</i>	1	36

Trade technology.

(1) Related English. (2) Related draw- ing. (3) Related mathematics. (4) Safety and hygiene. (5) Com- mercial geography. (6) Commer- cial law	1	36
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Total.....	4	36
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3. General continuation part-time class.

Total time—144 hours.

	Minutes per week.	Number weeks.
English	60	36
Geography	30	36
Mathematics (business arithmetic).....	60	36
Penmanship and letter writing.....	30	36
Hygiene and physical exercises.....	20	36
Spelling	20	36
Citizenship	20	36

Total	240 (4 hours)	36
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4. Commercial part-time class.

Two school years of 144 hours each.

	Minutes per week.
First year:	
Practical English	60
Business arithmetic	40
Spelling	20
Business writing.....	30
Hygiene and physical exercises.....	20
First lessons in business.....	60
Citizenship	10

Total	240
-------------	-----

Second year:

Practical English and word study.....	60
Business writing.....	30
Hygiene and physical exercises.....	20
Elementary bookkeeping, business practice and applied arithmetic	60
Commercial geography	20
Citizenship	10
Filing	40
<hr/>	
Total	240

For those who have completed at least two years of high school work either of the following courses is suggested:

	Minutes each evening.
Practical English, including spelling and word study	30
Business arithmetic	30
Elementary bookkeeping and business practice....	40
Business writing	20
<hr/>	
Total	120
Business English and correspondence.....	60
Typewriting	60
<hr/>	
Total	120

5. Retail selling part-time class.

	Number hours.
Arithmetic	26
Spelling	3
Practical English	6
Penmanship	$\frac{1}{2}$
Hygiene	$5\frac{1}{2}$
Recreation and calisthenics.....	6
Salesmanship	14
Demonstration sales	9
Merchandise study	9
Textiles	46
Business ethics	3
System	3
Store visits	3
Miscellaneous	10
<hr/>	
Total	144

EXHIBIT III.

III. DAY UNIT-TRADE SCHOOL.

Type Course for Towns of 25,000 or More Population.

	Hours per week.	Number weeks.
Shop work, minimum time.....	15	36
Related subjects, minimum time.....	5	36
1. Drawing.		
2. Science.		
3. Mathematics.		
Non-vocational subjects	10	36
1. English.		
2. History.		
3. Civics.		

Type Course for Towns of Less Than 25,000 Population.

Shop work, minimum time.....	12½	32
Related subjects, minimum time.....	5	32
1. Drawing.		
2. Science.		
3. Mathematics.		
Non-vocational subjects	7½	32
1. English.		
2. History.		
3. Civics.		

IV. TEACHER-TRAINING COURSES IN TRADES AND INDUSTRY.

EXHIBIT IV.

1. Courses Offered by the Agricultural and Mechanical College for Training Shop Teachers in Industrial Centers.

For the training of teachers of shop the following courses will be offered to tradesmen in evening classes:

Course A—Methods of teaching, Allen's book.....	60 hours
Course B—Trade analysis, related subjects, and practice teaching	60 hours
Course C—Special supervised related subjects, the student attending evening trade extension classes.....	60 hours
Course D—Practice teaching, the student doing regular teaching in evening trade extension classes.....	60 hours

**FOUR-YEAR COURSE IN VOCATIONAL EDUCATION AT THE COLLEGE FOR
TRAINING RELATED SUBJECTS TEACHERS.**

FRESHMAN YEAR.

First Term.	Hours per week.		Second Term.	Hours per week.	
	Th.	Pr.		Th.	Pr.
Chemistry (Inorganic).....	3	3	Chemistry (Inorganic).....	3	3
Drawing (Mechanical).....	0	3	Drawing (Mechanical).....	0	3
Drawing (Descriptive geometry).....	2	0	Drawing (Descriptive geometry).....	2	0
Drawing (Freehand).....	0	1	Drawing (Freehand).....	0	1
English (Rhetoric and composition).....	3	0	English (Rhetoric and composition).....	3	0
Mathematics (Algebra).....	3	0	Mathematics (Algebra).....	3	0
Mathematics (Trigonometry).....	3	0	Mathematics (Analytics).....	3	0
Mechanical engineering (Elementary mechanics).....	1	0	Mechanical engineering (Elementary mechanics).....	1	0
Mechanical engineering (Woodwork).....	0	3	Mechanical engineering (Forging).....	0	3
Military science.....	1	2	Military science.....	1	2
	16	12		16	12

SOPHOMORE YEAR.

Chemical engineering (Industrial chemistry)...	3	0	Architecture (Carpentry).....	2	0
Drawing (Mechanical).....	0	3	Chemical engineering (Metallurgy).....	2	0
Drawing (Color harmony and design).....	0	3	Drawing (Mechanical).....	0	3
English (Literature).....	2	0	Electrical engineering (Motors, wiring, lighting).....	2	4
English (Composition).....	1	0	English (Literature).....	2	0
Mechanical engineering (Patternmaking and foundry work).....	0	3	English (Composition).....	1	0
Mechanical engineering (Kinematics).....	2	2	Mechanical engineering (Patternmaking and foundry work).....	0	3
Military science.....	1	2	Military science.....	1	2
Physics (General).....	3	3	Physics (General).....	3	3
	12	16		13	15

JUNIOR YEAR.

Architecture (Mechanical equipment).....	2	0	Drawing (Machine drawing).....	0	3
Drawing (Elementary architectural drawing).....	0	3	History (Industrial history).....	3	0
Mechanical engineering (Machine shop work).....	0	3	Mechanical engineering (Machine shop work).....	0	3
Mechanical engineering (Carpentry and cabinet making).....	0	3	Vocational teaching (Educational psychology).....	3	0
Vocational teaching (Vocational education).....	3	0	Vocational teaching (Vocational guidance).....	3	0
Vocational teaching (Related subjects).....	3	0	*Elective.....	8	..
*Elective.....	8	..			
	16	9		17	6

SENIOR YEAR.

Economics (Fundamental principles).....	3	0	Agricultural engineering (Auto mechanics).....	2	4
English (Public speaking).....	1	0	English (Public speaking).....	1	0
Mechanical engineering (Sheet metal work).....	0	3	Vocational teaching (Administration and supervision of industrial education).....	3	0
Vocational teaching (Methods of teaching education).....	2	2	Vocational teaching (Supervised teaching).....	1	4
Vocational teaching (Related subjects).....	3	0	*Elective.....	9	..
*Elective.....	8	..			
	17	5		16	8

*To be approved by the professor of vocational teaching.

In addition to above, students will spend at least ten weeks at work in two of the trades during the summer vacation.

EXHIBIT IV (Continued).

2. Courses Offered by the University of Texas for Training Shop Teachers in Industrial Centers.

The regular evening or part-time course in teacher-training for shop teachers will extend over a period of two years, with a total of 240 unit hours (class hours). The following is an outline of the proposed course:

Mechanics of teaching in practical methods.....	60 hours
Related mathematics, science and drawing.....	120 hours
Observation and practice teaching.....	60 hours

TWO-YEAR COURSE IN VOCATIONAL EDUCATION AT THE UNIVERSITY OF TEXAS FOR TRAINING RELATED SUBJECTS TEACHERS.

FIRST YEAR.

Fall Term.	Hrs.	Winter Term.	Hrs.	Spring Term.	Hrs.
Shop English.....	60	Shop English.....	60	Physics.....	60
Chemistry.....	60	Vocational psychology.....	60	History of industrial education.....	60
Vocational psychology.....	60	History of industrial education.....	60	Observation of teaching.....	60
Shop mathematics.....	60	Shop mathematics.....	60	Woodwork.....	240
Drawing—elementary archi- tectural.....	120	Drawing—elementary archi- tectural.....	120	Shop mathematics.....	60
Forging.....	120	Pattern making.....	120		

SECOND YEAR.

Practice teaching.....	60	Trade science.....	60	Industrial science.....	60
Elementary mechanics and strength of materials.....	60	Methods of teaching (Allen course).....	60	Administration of vocational education.....	60
Machine shop.....	120	Practice teaching.....	60	Practice teaching.....	60
Drawing—machine design.....	120	Elementary mechanics and strength of materials.....	60	Methods of teaching (Allen course).....	60
Building codes.....	60	Machine shop.....	120	Electrical shop.....	120
Auto mechanics.....	60	Drawing—machine design.....	120	Sheet metal shop.....	120

Total hours residence work, 2880.

In addition to the above residence work summer vacation work totaling at least 880 hours will be required in any four of the following trades: Carpenter, cabinet maker, machinist, plumber, electrician, mason, printer, foundryman, auto mechanic or sheet metal worker.

HOME ECONOMICS.

EXHIBIT I.

I. TYPES OF UNIT COURSES IN EVENING AND PART-TIME HOME ECONOMICS CLASSES.

- (a) Food.
- (b) Hygiene and home nursing.
- (c) Clothing.
- (d) Home planning and house furnishing.
- (e) Home management.

The following are types of unit courses for evening or part-time home economics schools: (Taken from Bulletin 35, Use and Preparation of Food, published by Federal Board for Vocational Education):

a. Use and Preparation of Foods.

Unit 1—Preparation of some simple foods.....	6 lessons.
Unit 2—Fruits and vegetables.....	6 lessons.
Unit 3—Practical ways of using peas, beans, and nuts.....	6 lessons.
Unit 4—Milk, cheese, eggs.....	7 lessons.
Unit 5—Fats.....	5 lessons.
Unit 6—Meat, fish, poultry, game.....	8 lessons.
Unit 7—Batters and doughs.....	8 lessons.
Unit 8—Sugar and sweets.....	5 lessons.
Unit 9—Home preservation of foods.....	10 lessons.
Unit 10—Food for the family.....	8 lessons.
Unit 11—Special modification of the diet.....	8 lessons.
Unit 12—The housekeeper and the food problem.....	7 lessons.

b. Clothing for the Family.

Elementary Garment Construction.

Outline from Bulletin 23—Federal Board for Vocational Education.
Unit 1—Chemise; Hand sewing; Use of patterns..... 5 lessons.
Unit 2—Underskirt—study of machine and its use..... 5 lessons.
Unit 3—Bungalow apron..... 4 lessons.
Unit 4—Care and repair of clothing..... 2 lessons.

Elementary Dressmaking.

Unit 1—Budget 1 lesson.
Unit 2—Washable waists..... 5 lessons.
Unit 3—Washable dresses—possibilities of conservation... 9 lessons.
Unit 4—Care, repair, and renovation of washable garments. 2 lessons.

Advanced Dressmaking.

Unit 1—Wool dress—possibilities of conservation.....11 lessons.
Unit 2—Dress form..... 8 lessons.
Unit 3—Party dress..... 9 lessons.
Unit 4—Care, repair, renovation, and remodeling of silk
and wool garments..... 2 lessons.

Children's Clothing.

Unit 1—Layette 4 lessons.
Unit 2—Children's clothing—possibilities of conservation.. 4 lessons.
Unit 3—Boy's suit, or substitution of child's coat..... 9 lessons.

Millinery.

Unit 1—The making of hat frame.....12 lessons.
Trimming hats..... 5 lessons.
Unit 2—Care and renovation of hats..... 2 lessons.

HOME ECONOMICS.

EXHIBIT II.

II. TABLE SHOWING VOCATIONAL, NON-VOCATIONAL, HOME ECONOMICS, AND RELATED SUBJECTS FOR THE ALL-DAY SCHOOL.

This Outline is Taken from Bulletin 28, Home Economics Education, Federal Board for Vocational Education.

Textiles and Clothing.

Home Economics Subjects.

- Textiles and garment making.
- Elementary dressmaking.
- Advanced dressmaking and study of clothing.
- House planning and house furnishing.

Related Subjects.

Drawing and design applied to clothing and the home.
Advanced design, including dress design and house furnishing.

Foods and Household Management.

Food study and cookery.
Home management (including planning and serving of meals, household accounts).
Laundry.
Elementary dietetics.
Child care.
Lunch room and cafeteria cookery.
Home practice and home projects.
In the school:
Noonday lunch.
Food sales.
Junior Red Cross.
Garment making, for sale, etc.
In the home:
Practice in household operations.
Projects, including management.
Household science (general science applied to the household).
Household accounts.
Sanitation, physiology, hygiene and home nursing.
Household chemistry.
Household physics.

Non-Vocational Subjects.

English language and literature.
Civics and citizenship.
Elementary social science and economics.
Mathematics.
History.

HOME ECONOMICS.

III. TYPES OF COURSES OF STUDY FOR ALL-DAY SCHOOLS.

Courses of study for an all-day school giving two years of vocational work, the vocational half day devoted to home economics and related subjects.

For other types of courses or for courses of greater length correspond with State Supervisor of Home Economics, Austin, Texas.

Subjects.	Units.	Cities 25,000 and less. Time per week	Cities 25,000 and more. Time per week.
FIRST YEAR.			
Non-vocational.....	2		
English.....		5-45 minute periods.....	5-45 minute periods.
Elective.....		5-45 minute periods.....	5-45 minute periods.
Vocational.....	2		
Home economics.....	1	5-90 minute periods.....	5-120 minute periods.
Clothing.....	½		
Food study.....	½		
Related work.....	1		300 minutes a week set up as
A choice of:			5-60 minute periods or 3-
Art and design.....	½	3-45 minute periods	45 minute periods and 2-90
Costume design and house		and	minute periods.
furnishing.....	½	2-90 minute periods per week,	
General science.....	1 or ½	or	
Biology.....	1	5-60 minute periods per week.	
Physiology.....	½		
Hygiene and home nursing...	½		
SECOND YEAR.			
Non-vocational.....	2		
English.....	1	5-45 minute periods.....	5-45 minute periods.
Elective.....	1	5-45 minute periods.....	5-45 minute periods.
Vocational.....	2		
Home economics.....	1 or ½	5-90 minute periods.....	5-120 minute periods.
Advanced clothing.....	½		
Advanced food study.....	½		
Home management.....	½		
Related subjects.....	1 or ½	3-45 minute periods	300 minutes a week set up as
Choice of one not given in first		and	5-60 minute periods or 3-
year:		2-90 minute periods per week,	45 minute periods and 2-
Hygiene and home nursing..	½	or	90 minute periods.
Costume design and house		5-60 minute periods per week	
furnishing.....	½		
Physiology and hygiene.....	½		
Household physics.....	1 or ½		
Household chemistry.....	1 or ½		

Note 1.—For one semester of the second year's work, it is often desirable to give the whole half day to home economics subjects devoting half the time to foods and clothing, and half the time to home management.

Note 2.—The grades taking vocational work in Texas are usually:
First year vocational work, ninth or tenth grade.

Second year vocational work, tenth or eleventh grade.

The eighth grade is rarely a vocational class because the pupils are not usually fourteen years of age.

Note 3.—For outlines of courses of study, see Bulletin 114, Home Economics in Texas High Schools, State Department of Education, Austin, Texas.

HOME ECONOMICS.

EXHIBIT IV.

IV. SUGGESTED VOCATIONAL HOME ECONOMICS COURSE FOR NEGRO SCHOOLS.

In the negro schools offering vocational home economics the following is a suggestive course of study in which 180 minutes daily is given to vocational work interpreted as home economics subjects and related subjects in second, third and fourth years, but as home economics work entirely in the first year:

First Year.

	Weeks.	Units.
Non-vocational studies.....		2
Clothing—elementary sewing. Simple garment construction. Use of sewing machine emphasized....	24	
Foods—elementary food study and cookery, simple meal service	24	2
Sanitation and care of the house and surroundings....	24	
Home work under supervision of teacher in sanitation, clothing, foods.		
Suggested arrangement:		
Clothing—90 minutes for 24 weeks.		
Foods—90 minutes for 24 weeks.		
Sanitation—90 minutes for 24 weeks.		
First twelve weeks (foods and clothing).		
Second twelve weeks (foods and sanitation).		
Third twelve weeks (clothing and sanitation).		

Second Year.

	Weeks.	Units.
Two non-vocational studies.....		2
Biology		1
Clothing	15	
Mending and care.		
Renovation and remodeling.		
Elementary dressmaking.		
Foods	15	1
Meal cookery and service.		
Simple home canning.		
Marketing and care of food in home.		
Laundrying (including soap making).....	6	
Home work in laundrying.		

Third Year.

	Weeks.	Units.
Two non-vocational subjects.....		2
Physiology, hygiene, home care of sick, first aid.....		1
Clothing—dressmaking, simple account keeping.....	18	
Foods—advanced cookery, including courses in child feeding, emphasizing use and care of milk, including the school lunch.....	18	1

Fourth Year.

	Weeks.	Units.
Two non-vocational studies.....		2
Science		1
Food study—food preservation.		
Elementary dietetics.		
Preparation of simple foods for the sick.....	18	
Large quantity cooking and serving (cooperation with school lunch is possible).....		1

A unit means a 45-minute recitation or ninety minutes of laboratory work daily.

NOTE.—When vocational work is interpreted as home economics entirely, the related work in the second, third, and fourth year is omitted, and ninety minutes daily added to time given to home economics studies.

The following course is designed to reach students in negro schools who are over fourteen years of age and are still in the lower grades, but who, with special training, could be made able to earn a good living along home economics lines. This course should cover two years' work, one-half of each day at school being devoted to home economics work, practical housekeeping being emphasized:

First Year.

- English.
- Arithmetic.
- Practical family cooking and serving.
- Practical family laundering.
- Practical clothing and sewing.
- Practical housekeeping (use and care of all conveniences).

Second Year.

- English.
- Arithmetic.
- Advanced work in cooking and sewing.
- Advanced work in laundering.
- Advanced work in dressmaking.
- Advanced work in canning.
- Cookery for the sick.
- Care of children.

HOME ECONOMICS.

EXHIBIT V.

1. FOR WHITES.

A. *University of Texas.*

Teacher Training Course in Vocational Home Economics.

Requirement for Degree—21 Courses.

FRESHMAN YEAR.	Credit in courses.	SOPHOMORE YEAR.	Credit in courses.
English I.....	1	English 2 or 3.....	1
Home economics I (Food and its preparation).....	1	Home economics 15 (Textiles and clothing).....	1
Chemistry I (General).....	1	Home economics 16 (Applied design).....	1
Zoology 10 (Physiology).....	1	Physics 1 (General).....	1
Applied mathematics 110.....	$\frac{1}{2}$	A numbered course in a foreign language if not completed in the freshman year.....	1
A numbered course in a foreign language or a lettered course followed by a numbered course in the sophomore year.....	1	One other course if needed to make five.	
Physical training.....		Physical training.	
Total.....	5$\frac{1}{2}$	Total.....	5

JUNIOR YEAR.	Credit in courses.	SENIOR YEAR.	Credit in courses.
Home economics 11 (Composition and digestion of foods).....	1	Home economics 212 fw. (Dietetics).....	1
Home economics 217 fw. (Costume design and advanced clothing).....	3	Home economics 211 fw. (Application of principles of economics to problems of home making).....	3
Education 203 fw. and 104 s. (Principles of education).....	1	Home economics 111 s. (Household management and practice house residence).....	3
Botany 29 (Bacteriology).....	1	Home economics 104 f. (Sanitation).....	1
A course in economics.....	1	Home economics 121 s. (Home nursing).....	3
Psychology 101 f. or a one-third course in philosophy.....	3	Education 27 (General and special methods and student teaching).....	1
Elective.....	3	Enough other courses to make five and one-third.....	2
Physical training.....	3		
Total.....	5½	Total.....	5½

Grand total..... 21 Courses

Proportion of Time Given to Courses.

Home Economics (approximately).....	28%
Related (approximately).....	23%
Professional (approximately).....	11%
General (approximately).....	38%

V. Teacher Training Courses in Vocational Home Economics.

B. College of Industrial Arts.

Graduation Requirement—180 Hours.

FRESHMAN.			
Hrs.		Hrs.	
English 110.....	3	English 120.....	3
Chemistry 110.....	3	Chemistry 120.....	3
History 210 or 211 or 212.....	3	History 220 or 221 or 222.....	3
Textiles 110.....	3	Design 125.....	3
Foods.....	3	Foods 120.....	3
Physical training 110.....	3	Physical training 120.....	3
<hr/>	15	<hr/>	15
SOPHOMORE.			
Foods 210.....	3	Foods 220.....	3
Education 210.....	3	Chemistry 210.....	3
Physiology.....	3	Chemistry 220.....	3
Design 215.....	3	Laundry 230.....	3
Clothing 210.....	3	Bacteriology 220.....	3
Physical training 210.....	3	Clothing 220.....	3
		Physical training 230.....	3
<hr/>	15	<hr/>	15
JUNIOR.			
Dietetics 310.....	3	Dietetics 320.....	3
Economics 310.....	3	Economics 320 or.....	3
Household physics 310.....	3	Sociology 320.....	3
Education 310.....	3	Household physics 320.....	3
Elective.....	3	Education 320.....	3
		Elective.....	3
<hr/>	15	<hr/>	15
SENIOR.			
English 210.....	3	English 220.....	3
Education 415.....	3	Home management 330.....	3
Interior decoration 210.....	3	Education 425.....	3
Home nursing 230.....	3	House plans 410.....	3
Elective.....	3	Elective.....	3
<hr/>	15	<hr/>	15
		English 230.....	3
		Economic problems of home 410.....	3
		Millinery 330.....	3
		Elective.....	6
		<hr/>	15

NOTE.—Child Study 310 (Psychology 310) must be taken during one of the quarters of the senior year. Education 430 must also be taken.

Home Economics courses.....	27.94%
Related courses.....	27.94%
Professional courses.....	14.71%
General courses.....	29.41%

C. Southwest Texas Normal College.

Courses of Study for Vocational Home Economics.

Total for Graduation—180 Hours.

FRESHMAN.		Hrs.	SOPHOMORE.		Hrs.
Clothing (Sewing and textiles).....	3		Clothing (Dressmaking and drafting).....	9	
Foods (Preparation and cooking).....	9		Foods (Elementary course in dietetics).....	3	
English (Composition, argumentation, public speaking, and dramatics).....	9		Chemistry (Organic, physiological).....	9	
Chemistry (General).....	6		English (Advanced composition, contemporary literature).....	6	
Education (Educational psychology).....	3		Designing.....	3	
Elementary design.....	3		History (Industrial history of modern Europe, American history since the Civil War).....	6	
Household physics.....	3		Education (Principles of teaching).....	6	
Biological science (General biology).....	6		Elective.....	6	
Elective.....	3				
	<hr/>	45		<hr/>	45
JUNIOR.			SENIOR.		
Theory of teaching home economics (Equipment, methods, course of study).....	3		Household management (Theory and practice of furnishing a home.....	} 9	
Clothing (Textiles and tailoring).....	9		Practice cottage (Application of household management).....		
Foods (Dietetics, invalid cookery).....	6		Sanitation.....		
Chemistry (Quantitative analysis).....	6		Dietaries and nutrition.....	9	
Education (History of education in modern times).....	3		Practice teaching in home economics.....	9	
Psychology (The psychology of learning).....	6		Sociology (Constructive rural sociology, principles of pure sociology).....	6	
Bacteriology (Classroom and laboratory bacteriology).....	6		Millinery (A study of the practical and artistic in millinery).....	3	
Elective.....	6		Elective.....	9	
	<hr/>	45		<hr/>	45

Proportion of Time Given to Courses.

Home Economics	33 $\frac{1}{3}$ %.
Related	23 $\frac{1}{3}$ %.
Professional	15 %.
General	28 $\frac{1}{3}$ %.

2. FOR NEGROES.

Prairie View Normal and Industrial College.

Teacher Training Courses in Vocational Home Economics.

Courses in Home Economics Leading to Bachelor of Science Degree.

FRESHMAN.		Second Semester.	
First Semester.	Hrs.	English.....	Hrs.
English.....	3	Clothing.....	3
Clothing.....	3	History.....	3
History.....	3	Laundrying.....	3
Laundrying.....	3	Foods and cookery.....	3
Foods and cookery.....	3	Chemistry.....	3
Chemistry.....	3		
	<hr/>		<hr/>
	18		18
SOPHOMORE.			
English.....	3	English.....	3
Design.....	1 $\frac{1}{2}$	Design.....	3
Physics.....	1 $\frac{1}{2}$	Physics or Biology.....	1 $\frac{1}{2}$
Biology.....	3	Foods and cookery.....	1 $\frac{1}{2}$
Foods and Cookery.....	3	Clothing.....	3
Clothing.....	3	Home nursing.....	1 $\frac{1}{2}$
Home nursing.....	1 $\frac{1}{2}$	Psychology.....	3
Psychology.....	3		
	<hr/>		<hr/>
	18		18

JUNIOR.

First Semester.	Hrs.	Second Semester.	Hrs.
English	3	English	3
Household chemistry	1½	Household chemistry	1½
Household physics	1½	Household physics	1½
Physiology	3	Physiology	3
Education (General methods)	3	Education (General methods)	3
Household management	3	Household management	3
Foods and cookery	2	Foods and cookery	2
Clothing	2	Clothing	2
	<hr/>		<hr/>
	18		18

SENIOR.

Rural sociology	4	Special methods and practice teaching in home economics	4
Child care	2	Child care	2
Bacteriology and sanitation	3	Bacteriology and sanitation	3
Millinery	2	Millinery	2
Supervised household management	3	Supervised household management	3
	<hr/>		<hr/>
	14		14

Proportion of Time Given to Courses.

Home Economics work	41%
Related work	20%
Professional	12%
General	26%

THE SMITH-HUGHES ACT.

[Public, No. 347, Sixty-fourth Congress.]

[S. 703.]

An Act to provide for the promotion of vocational education; to provide for cooperation with the States in the promotion of such education in agriculture and the trades and industries; to provide for cooperation with the States in the preparation of teachers of vocational subjects; and to appropriate money and regulate its expenditure.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that there is hereby annually appropriated, out of any money in the Treasury not otherwise appropriated, the sums provided in sections two, three, and four of this act, to be paid to the respective States for the purpose of cooperating with the States in paying the salaries of teachers, supervisors, and directors of agricultural subjects, and teachers of trade, home economics, and industrial subjects, and in the preparation of teachers of agricultural, trade, industrial, and home economics subjects; and the sum provided for in section seven for the use of the Federal Board for Vocational Education for the administration of this act and for the purpose of making studies, investigations, and reports to aid in the organization and conduct of vocational education, which sums shall be expended as hereinafter provided.

SEC. 2. That for the purpose of cooperating with the States in paying the salaries of teachers, supervisors, or directors of agricultural subjects there is hereby appropriated for the use of the States, subject to the provisions of this act, for the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of \$500,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, the sum of \$750,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty, the sum of \$1,000,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-one, the sum of \$1,250,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-two, the sum of \$1,500,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-three, the sum of \$1,750,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-four, the sum of \$2,000,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-five, the sum of \$2,500,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-six, and annually thereafter, the sum of \$3,000,000. Said sums shall be allotted to the States in the proportion which their rural population bears to the total rural population in the United States, not including outlying possessions, according to the last preceding United States census: *Provided*, That the allotment of funds to any State shall be not less than a minimum of \$5,000 for any fiscal year prior to and including the fiscal year ending June thirtieth, nineteen hundred and twenty-three, nor less than \$10,000 for any fiscal year thereafter, and there is hereby appropriated the following sums, or so much thereof as may be necessary, which shall be used for the purpose of providing the minimum allotment to the States pro-

vided for in this section: For the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of \$48,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, the sum of \$34,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty, the sum of \$24,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-one, the sum of \$18,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-two, the sum of \$14,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-three, the sum of \$11,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-four, the sum of \$9,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-five, the sum of \$34,000; and annually thereafter the sum of \$27,000.

SEC. 3. That for the purpose of cooperating with the States in paying the salaries of teachers of trade, home economics, and industrial subjects there is hereby appropriated for the use of the States, for the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of \$500,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, the sum of \$750,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty, the sum of \$1,000,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-one, the sum of \$1,250,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-two, the sum of \$1,500,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-three, the sum of \$1,750,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-four, the sum of \$2,000,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-five, the sum of \$2,500,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-six, the sum of \$3,000,000; and annually thereafter the sum of \$3,000,000. Said sums shall be allotted to the States in the proportion which their urban population bears to the total urban population in the United States, not including outlying possessions, according to the last preceding United States census: *Provided*, That the allotment of funds to any State shall be not less than a minimum of \$5,000 for any fiscal year prior to and including the fiscal year ending June thirtieth, nineteen hundred and twenty-three, nor less than \$10,000 for any fiscal year thereafter, and there is hereby appropriated the following sums, or so much thereof as may be needed, which shall be used for the purpose of providing the minimum allotment to the States provided for in this section: For the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of \$66,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, the sum of \$46,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty, the sum of \$34,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-one, the sum of \$28,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-two, the sum of \$25,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-three, the sum of \$22,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-four, the sum of \$19,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-five, the sum of \$56,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-six, and annually thereafter, the sum of \$50,000.

That not more than twenty per centum of the money appropriated under this act for the payment of salaries of teachers of trade, home economics, and industrial subjects, for any year, shall be expended for the salaries of teachers of home economics subjects.

SEC. 4. That for the purpose of cooperating with the States in preparing teachers, supervisors, and directors of agricultural subjects and teachers of trade and industrial and home economics subjects there is hereby appropriated for the use of the States for the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of \$500,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, the sum of \$700,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty, the sum of \$900,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-one, and annually thereafter, the sum of \$1,000,000. Said sums shall be allotted to the States in the proportion which their population bears to the total population of the United States, not including outlying possessions, according to the last preceding United States census: *Provided*, That the allotment of funds to any State shall be not less than a minimum of \$5,000 for any fiscal year prior to and including the fiscal year ending June thirtieth, nineteen hundred and nineteen, nor less than \$10,000 for any fiscal year thereafter. And there is hereby appropriated the following sums, or so much thereof as may be needed, which shall be used for the purpose of providing the minimum allotment provided for in this section: For the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of \$46,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, the sum of \$32,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty, the sum of \$24,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-one, and annually thereafter, the sum of \$90,000.

SEC. 5. That in order to secure the benefits of the appropriations provided for in sections two, three, and four of this act, any State shall, through the legislative authority thereof, accept the provisions of this act and designate or create a State board, consisting of not less than three members, and having all necessary power to cooperate, as herein provided, with the Federal Board for Vocational Education in the administration of the provisions of this act. The State board of education, or other board having charge of the administration of public education in the State, or any State board having charge of the administration of any kind of vocational education in the State may, if the State so elects, be designated as the State board, for the purposes of this act.

In any State the legislature of which does not meet in nineteen hundred and seventeen, if the governor of that State, so far as he is authorized to do so, shall accept the provisions of this act and designate or create a State board of not less than three members to act in cooperation with the Federal Board for Vocational Education, the Federal Board shall recognize such local board for the purposes of this act until the legislature of such State meets in due course and has been in session sixty days.

Any State may accept the benefits of any one or more of the respective funds herein appropriated, and it may defer the acceptance

of the benefits of any one or more of such funds, and shall be required to meet only the conditions relative to the fund or funds the benefits of which it has accepted: *Provided*, That after June thirtieth, nineteen hundred and twenty, no State shall receive any appropriation for salaries of teachers, supervisors, or directors of agricultural subjects, until it shall have taken advantage of at least the minimum amount appropriated for the training of teachers, supervisors, or directors of agricultural subjects, as provided for in this act, and that after said date no State shall receive any appropriation for the salaries of teachers of trade, home economics, and industrial subjects until it shall have taken advantage of at least the minimum amount appropriated for the training of teachers of trade, home economics, and industrial subjects, as provided for in this act.

SEC. 6. That a Federal Board for Vocational Education is hereby created, to consist of the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Labor, the United States Commissioner of Education, and three citizens of the United States to be appointed by the President, by and with the advice and consent of the Senate. One of said three citizens shall be a representative of the manufacturing and commercial interests, one a representative of the agricultural interests, and one a representative of labor. The board shall elect annually one of its members as chairman. In the first instance, one of the citizen members shall be appointed for one year, one for two years, and one for three years, and thereafter for three years each. The members of the board other than the members of the Cabinet and the United States Commissioner of Education shall receive a salary of \$5,000 per annum.

The board shall have power to cooperate with State boards in carrying out the provisions of this act. It shall be the duty of the Federal Board for Vocational Education to make, or cause to have made studies, investigations, and reports, with particular reference to their use in aiding the States in the establishment of vocational schools and classes and in giving instruction in agriculture, trades and industries, commerce and commercial pursuits, and home economics. Such studies, investigations, and reports shall include agriculture and agricultural processes and requirements upon agricultural workers; trades, industries, and apprenticeships, trade and industrial requirements upon industrial workers, and classification of industrial processes and pursuits; commerce and commercial pursuits and requirements upon commercial workers; home management, domestic science, and the study of related facts and principles; and problems of administration of vocational schools and of courses of study and instruction in vocational subjects.

When the board deems it advisable such studies, investigations, and reports concerning agriculture, for the purposes of agricultural education, may be made in cooperation with or through the Department of Agriculture; such studies, investigations, and reports concerning trades and industries, for the purposes of trade and industrial education, may be made in cooperation with or through the Department of Labor; such studies, investigations, and reports concerning commerce and commercial pursuits, for the purposes of commercial education, may be made in cooperation with or through the Department of Commerce; such studies, investigations, and reports concerning the administration

of vocational schools, courses of study and instruction in vocational subjects, may be made in cooperation with or through the Bureau of Education.

The Commissioner of Education may make such recommendations to the board relative to the administration of this Act as he may from time to time deem advisable. It shall be the duty of the chairman of the board to carry out the rules, regulations, and decisions which the board may adopt. The Federal Board for Vocational Education shall have power to employ such assistants as may be necessary to carry out the provisions of this act.

SEC. 7. That there is hereby appropriated to the Federal Board for Vocational Education the sum of \$200,000 annually, to be available from and after the passage of this act, for the purpose of making or cooperating in making the studies, investigations, and reports provided for in section six of this act, and for the purpose of paying the salaries of the officers, the assistants, and such office and other expenses as the board may deem necessary to the execution and administration of this act.

SEC. 8. That in order to secure the benefits of the appropriation for any purpose specified in this act, the State board shall prepare plans, showing the kinds of vocational education for which it is proposed that the appropriation shall be used; the kinds of schools and equipment; courses of study; methods of instruction; qualifications of teachers; and, in the case of agricultural subjects, the qualifications of supervisors or directors; plans for the training of teachers; and, in the case of agricultural subjects, plans for the supervision of agricultural education, as provided for in section ten. Such plans shall be submitted by the State board to the Federal Board for Vocational Education, and if the Federal Board finds the same to be in conformity with the provisions and purposes of this act, the same shall be approved. The State board shall make an annual report to the Federal Board for Vocational Education, on or before September first of each year, on the work done in the State and the receipts and expenditures of money under the provisions of this act.

SEC. 9. That the appropriation for the salaries of teachers, supervisors, or directors of agricultural subjects and of teachers of trade, home economics, and industrial subjects shall be devoted exclusively to the payment of salaries of such teachers, supervisors, or directors having the minimum qualifications set up for the State by the State board, with the approval of the Federal Board for Vocational Education. The cost of instruction supplementary to the instruction in agricultural and in trade, home economics, and industrial subjects provided for in this act, necessary to build a well-rounded course of training, shall be borne by the State and local communities, and no part of the cost thereof shall be borne out of the appropriations herein made. The moneys expended under the provisions of this act, in cooperation with the States, for the salaries of teachers, supervisors, or directors of agricultural subjects, or for the salaries of teachers of trade, home economics, and industrial subjects, shall be conditioned that for each dollar of Federal money expended for such salaries the State or local community, or both, shall expend an equal amount for such salaries; and that appropriations for the training of teachers of vocational sub-

jects, as herein provided, shall be conditioned that such money be expended for maintenance of such training and that for each dollar of Federal money so expended for maintenance, the State or local community, or both, shall expend an equal amount for the maintenance of such training.

SEC. 10. That any State may use the appropriation for agricultural purposes, or any part thereof allotted to it, under the provisions of this act, for the salaries of teachers, supervisors, or directors of agricultural subjects, either for the salaries of teachers of such subjects in schools or classes or for the salaries of supervisors or directors of such subjects under a plan of supervision for the State to be set up by the State board, with the approval of the Federal Board for Vocational Education. That in order to receive the benefits of such appropriation for the salaries of teachers, supervisors, or directors of agricultural subjects the State board of any State shall provide in its plan for agricultural education that such education shall be that which is under public supervision or control; that the controlling purpose of such education shall be to fit for useful employment; that such education shall be of less than college grade and be designed to meet the needs of persons over fourteen years of age who have entered upon or who are preparing to enter upon the work of the farm or of the farm home; that the State or local community, or both, shall provide the necessary plant and equipment determined upon by the State board, with the approval of the Federal Board for Vocational Education, as the minimum requirement for such education in schools and classes in the State; that the amount expended for the maintenance of such education in any school or class receiving the benefit of such appropriation shall be not less annually than the amount fixed by the State board, with the approval of the Federal Board as the minimum for such schools or classes in the State; that such schools shall provide for directed or supervised practice in agriculture, either on a farm provided for by the school or other farm, for at least six months per year; that the teachers, supervisors, or directors of agricultural subjects shall have at least the minimum qualifications determined for the State by the State board, with the approval of the Federal Board for Vocational Education.

SEC. 11. That in order to receive the benefits of the appropriation for the salaries of teachers of trade, home economics, and industrial subjects the State board of any State shall provide in its plan for trade, home economics, and industrial education that such education shall be given in schools or classes under public supervision or control; that the controlling purpose of such education shall be to fit for useful employment; that such education shall be of less than college grade and shall be designed to meet the needs of persons over fourteen years of age who are preparing for a trade or industrial pursuit or who have entered upon the work of a trade or industrial pursuit; that the State or local community, or both, shall provide the necessary plant and equipment determined upon by the State board, with the approval of the Federal Board for Vocational Education, as the minimum requirement in such State for education for any given trade or industrial pursuit; that the total amount expended for the maintenance of such education in any school or class receiving the benefit of such appropria-

tion shall be not less annually than the amount fixed by the State board, with the approval of the Federal Board, as the minimum for such schools or classes in the State; that such schools or classes giving instruction to persons who have not entered upon employment shall require that at least half of the time of such instruction be given to practical work on a useful or productive basis, such instruction to extend over not less than nine months per year and not less than thirty hours per week; that at least one-third of the sum appropriated to any State for the salaries of teachers of trade, home economics, and industrial subjects shall, if expended, be applied to part-time schools or classes for workers over fourteen years of age who have entered upon employment, and such subjects in a part-time school or class may mean any subject given to enlarge the civic or vocational intelligence of such workers over fourteen and less than eighteen years of age; that such part-time schools or classes shall provide for not less than one hundred and forty-four hours of classroom instruction per year; that evening industrial schools shall fix the age of sixteen years as a minimum entrance requirement and shall confine instruction to that which is supplemental to the daily employment; that the teachers of any trade or industrial subject in any State shall have at least the minimum qualifications for teachers of such subject determined upon for such State by the State board, with the approval of the Federal Board for Vocational Education: *Provided*, That for cities and towns of less than twenty-five thousand population, according to the last preceding United States census, the State board, with the approval of the Federal Board for Vocational Education, may modify the conditions as to the length of course and hours of instruction per week for schools and classes giving instruction to those who have not entered upon employment, in order to meet the particular needs of such cities and towns.

SEC. 12. That in order for any State to receive the benefits of the appropriation in this act for the training of teachers, supervisors, or directors of agricultural subjects, or of teachers of trade, industrial or home economics subjects, the State board of such State shall provide in its plan for such training that the same shall be carried out under the supervision of the State board: that such training shall be given in schools or classes under public supervision or control; that such training shall be given only to persons who have had adequate vocational experience or contact in the line of work for which they are preparing themselves as teachers, supervisors, or directors, or who are acquiring such experience or contact as a part of their training; and that the State board, with the approval of the Federal Board, shall establish minimum requirements for such experience or contact for teachers, supervisors, or directors of agricultural subjects and for teachers of trade, industrial, and home economics subjects: that not more than sixty per centum nor less than twenty per centum of the money appropriated under this act for the training of teachers of vocational subjects to any State for any year shall be expended for any one of the following purposes: For the preparation of teachers, supervisors, or directors of agricultural subjects, or the preparation of teachers of trade and industrial subjects, or the preparation of teachers of home economics subjects.

SEC. 13. That in order to secure the benefits of the appropriations

for the salaries of teachers, supervisors, or directors of agricultural subjects, or for the salaries of teachers of trade, home economics, and industrial subjects, or for the training of teachers as herein provided, any State shall, through the legislative authority thereof, appoint as custodian for said appropriations its State treasurer, who shall receive and provide for the proper custody and disbursements of all money paid to the State from said appropriations.

SEC. 14. That the Federal Board for Vocational Education shall annually ascertain whether the several States are using, or are prepared to use, the money received by them in accordance with the provisions of this act. On or before the first day of January of each year the Federal Board for Vocational Education shall certify to the Secretary of the Treasury each State which has accepted the provisions of this act and complied therewith, certifying the amounts which each State is entitled to receive under the provisions of this act. Upon such certification the Secretary of the Treasury shall pay quarterly to the custodian for vocational education of each State the moneys to which it is entitled under the provisions of this act. The moneys so received by the custodian for vocational education for any State shall be paid out on the requisition of the State board as reimbursement for expenditures already incurred to such schools as are approved by said State board and are entitled to receive such moneys under the provisions of this act.

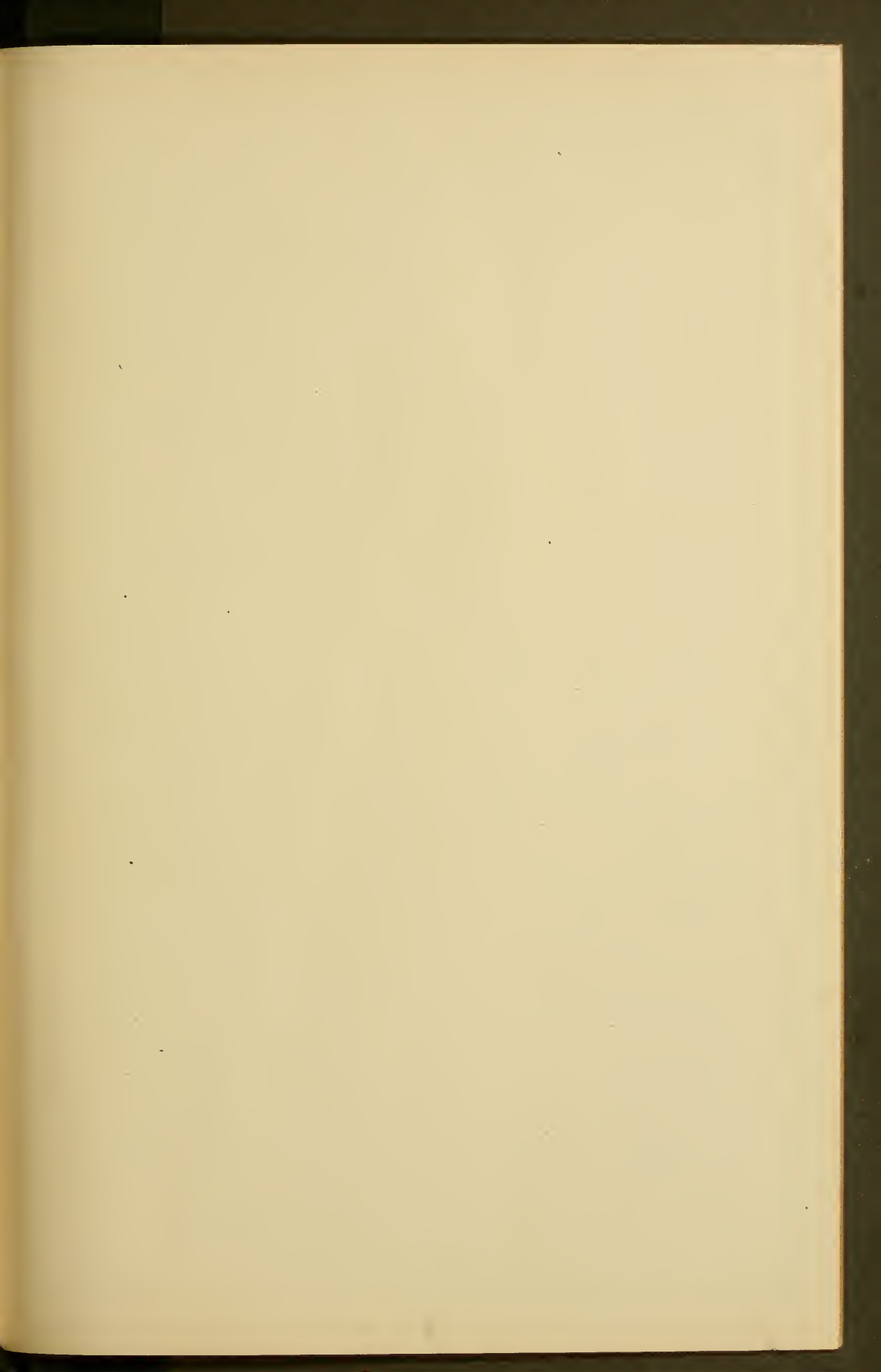
SEC. 15. That whenever any portion of the fund annually allotted to any State has not been expended for the purpose provided for in this act, a sum equal to such portion shall be deducted by the Federal Board from the next succeeding annual allotment from such fund to such State.

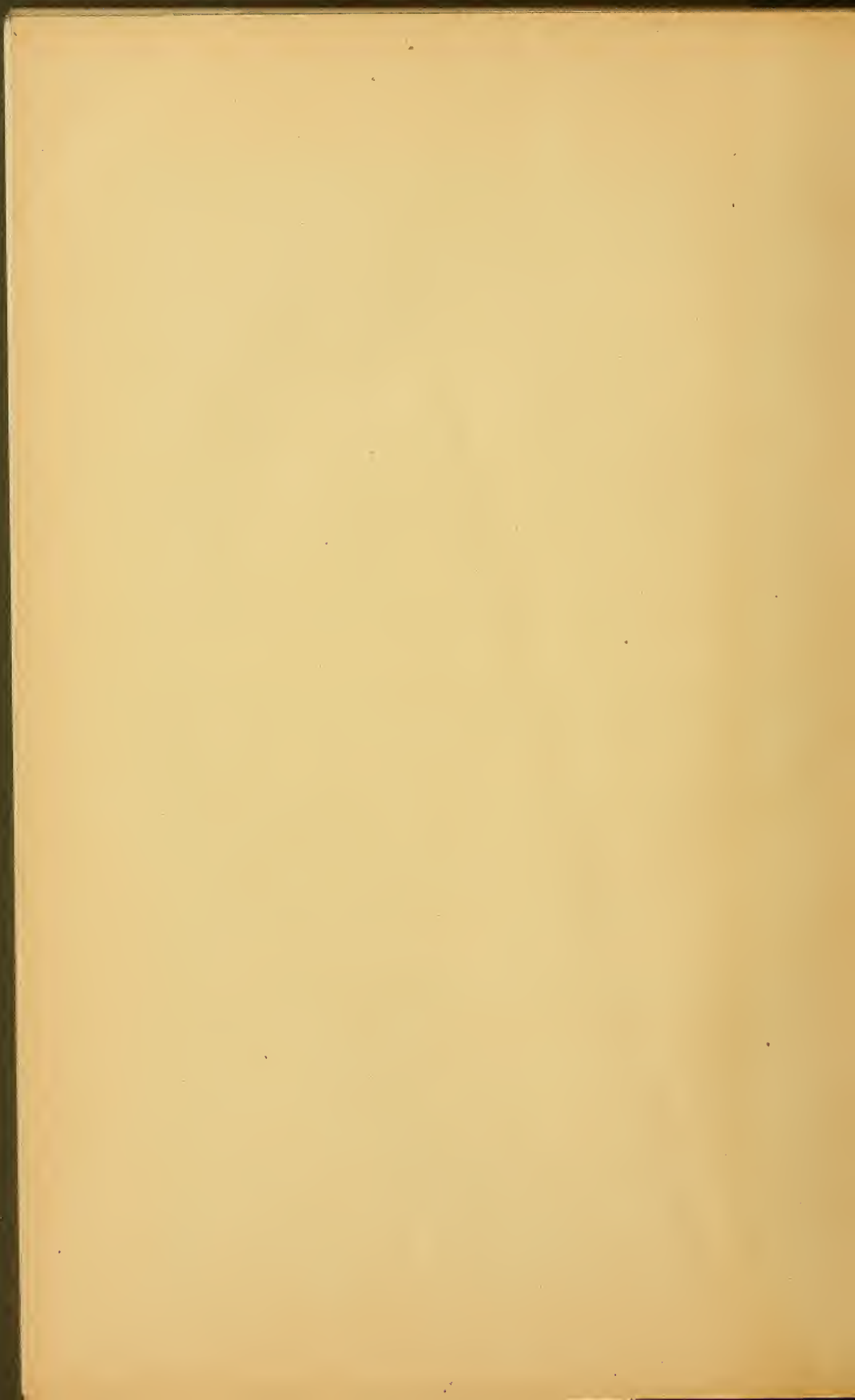
SEC. 16. That the Federal Board for Vocational Education may withhold the allotment of moneys to any State whenever it shall be determined that such moneys are not being expended for the purposes and under the conditions of this act.

If any allotment is withheld from any State, the State board of such State may appeal to the Congress of the United States, and if the Congress shall not direct such sum to be paid, it shall be covered into the Treasury.

SEC. 17. That if any portion of the moneys received by the custodian for vocational education of any State under this act, for any given purpose named in this act, shall, by any action or contingency, be diminished or lost, it shall be replaced by such State, and until so replaced no subsequent appropriation for such education shall be paid to such State. No portion of any moneys appropriated under this act for the benefit of the States shall be applied, directly or indirectly, to the purchase, erection, preservation, or repair of any building or buildings or equipment, or for the purchase or rental of lands, or for the support of any religious or privately owned or conducted school or college.

SEC. 18. That the Federal Board for Vocational Education shall make an annual report to Congress, on or before December first, on the administration of this act, and shall include in such report the reports made by the State boards on the administration of this act by each State and the expenditure of the money allotted to each State.





AVAILABLE BULLETINS OF THE DIVISION OF VOCATIONAL EDUCATION.

- Bulletin No. 106. Laboratory Exercises in Animal Production.
- Bulletin No. 107. Laboratory Exercises in Plant Production.
- Bulletin No. 108. A Year's Work in Plant Production.
- Bulletin No. 109. Girls' Clothing Contest Plans.
- Bulletin No. 114. Home Economics in Texas High Schools. (Courses of Study.)
- Bulletin No. 115. Courses of Study in Physiology, Hygiene and Home Nursing.
- Bulletin No. 121. Project Study Outlines.

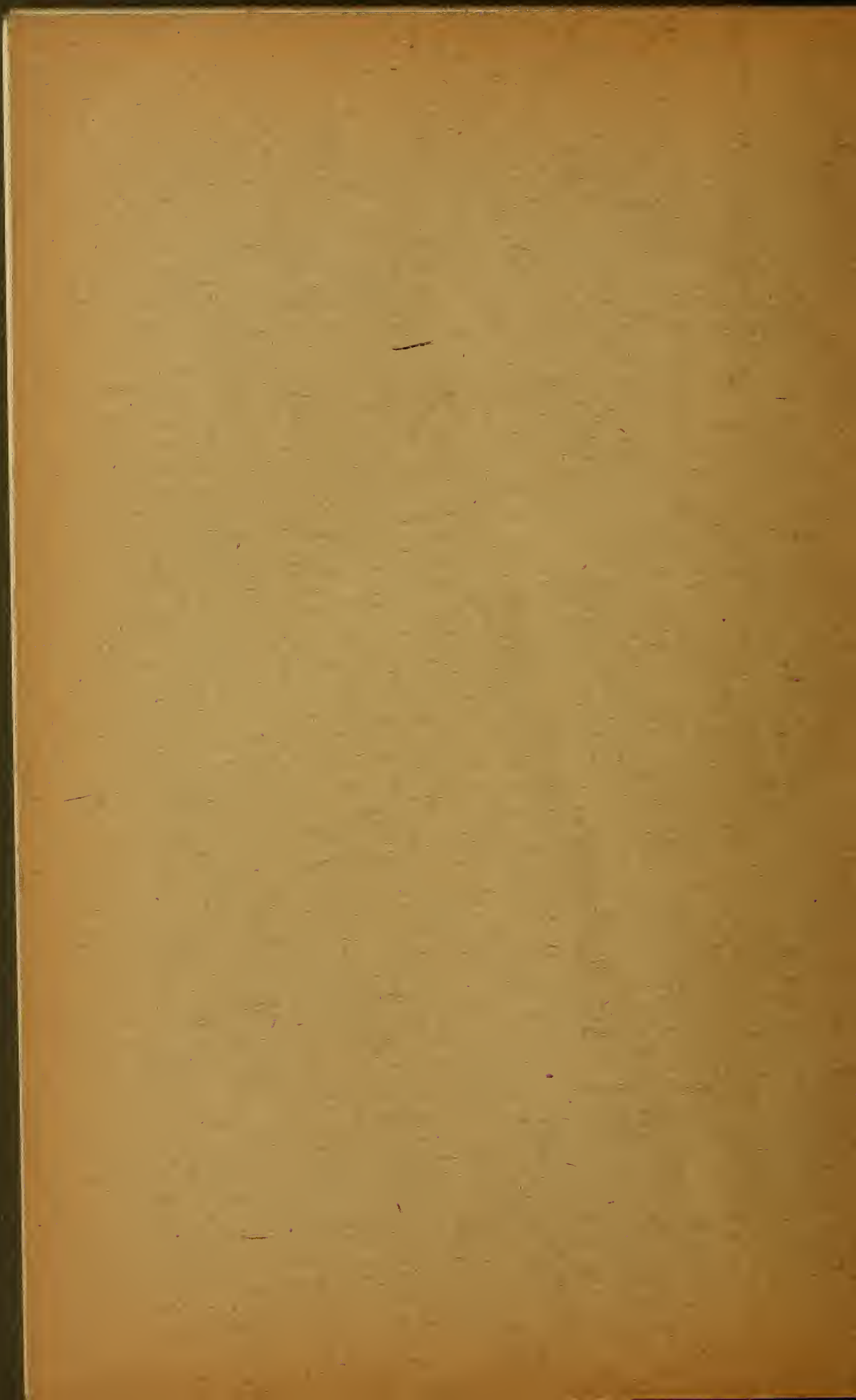
NEW BULLETINS OF THE DEPARTMENT OF EDUCATION.

- Bulletin No. 120. Rural School Libraries.
- Bulletin No. 122. Texas School Laws.
- Bulletin No. 123. Texas High Schools—Directory of Classified and Accredited High Schools.

BULLETINS OF THE FEDERAL BOARD FOR VOCATIONAL EDUCATION. 200 New Jersey Ave., N. W., Washington, D. C.

Annual report.

- The Vocational Summary, published monthly by the Federal Board for Vocational Education.
- Bulletin No. 12. Emergency War Training for Airplane Mechanics—Engine Repairmen, Woodworkers, Riggers, and Sheet-Metal Workers.
- Bulletin No. 13. (Agricultural Series, No. 1.) Agricultural Education—Organization and Administration.
- Bulletin No. 17. (Trade and Industrial Series No. 1.) Trade and Industrial Education—Organization and Administration.
- Bulletin No. 18. (Trade and Industrial Series, No. 2.) Evening Industrial Schools.
- Bulletin No. 19. (Trade and Industrial Series, No. 3.) Part-time Trade and Industrial Education.
- Bulletin No. 20. (Trade and Industrial Series, No. 4.) Buildings and Equipment for Schools and Classes in Trade and Industrial Subjects.
- Bulletin No. 21. (Agricultural Series, No. 3.) The Home Project as a Phase of Vocational Agricultural Education.
- Bulletin No. 22. (Commercial Education Series, No. 1.) Retail Selling.
- Bulletin No. 25. (Home Economics Series, No. 1.) Clothing for the Family. On sale by Superintendent of Documents, Government Printing Office. 15c per copy.
- Bulletin No. 24. (Commercial Education Series, No. 2.) Vocational Education for Foreign Trade and Shipping.
- Bulletin No. 25. (Agricultural Series, No. 4.) Agricultural Education—Some Problems in State Supervision.
- Bulletin No. 27. (Agricultural Series, No. 5.) The Training of Teachers of Vocational Agriculture.
- Bulletin No. 28. (Home Economics Series, No. 2.) Home Economics Education—Organization and Administration.
- Bulletin No. 30. (Trade and Industrial Series, No. 5.) Evening and Part-time Schools in the Textile Industry of the Southern States.
- Bulletin No. 31. (Trade and Industrial Series, No. 6.) Training Courses in Safety and Hygiene in the Building Trades.
- Bulletin No. 34. (Commercial Education Series, No. 3.) Commercial Education—Organization and Administration.
- Bulletin No. 35. (Home Economics Series, No. 3.) Use and Preparation of Food. On sale by Superintendent of Documents, Government Printing Office. 20c per copy.
- Bulletin No. 36. (Trade and Industrial Series, No. 7.) Foreman Training Courses. Part I.
- Bulletin No. 36. (Trade and Industrial Series, No. 7.) Foreman Training Courses. Part II.
- Bulletin No. 37. (Home Economics Series, No. 4.) Survey of the Needs in the Field of Vocational Economics Education.
- Bulletin No. 38. (Trade and Industrial Series, No. 8.) General Mining.
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- Bulletin No. 56. (Agricultural Series, No. 7.) Lessons in Animal Production for Southern Schools.
- Bulletin No. 57. (Industrial Rehabilitation Series, No. 1.) Industrial Rehabilitation—A Statement of Policies to be Observed in the Administration of the Industrial Rehabilitation Act.



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